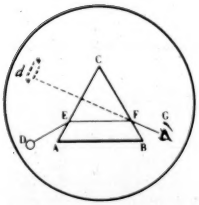

optics and spectroscopy

index
volumes XXXIV-XXXV
January-December 1973

OPTICAL SOCIETY OF AMERICA

USSR ACADEMY OF SCIENCES

RUSSIAN EDITORIAL STAFF FOR
OPTIKA I SPEKTROSKOPIYA sponsored by
U.S.S.R. ACADEMY OF SCIENCES

Editor-in-Chief: S. E. FRISH

Deputy Editor-in-Chief: P. P. FEOFILOV
Executive Secretary: L. S. SAZONOV

Editorial Board:

M. V. VOLKENSTEIN
M. M. GUREVICH
M. A. ELYASHEVICH
D. Yu. GALPERN
N. I. KALITEEVSKI
V. P. LINNIK
S. L. MANDELSHTAM
I. V. OBREIMOV
V. K. PROKOFEV
N. N. SOBOLEV
F. M. GERASIMOV
B. S. NEPORENT

Translated from *Optika i Spektroskopiya* on the initiative of THE OPTICAL SOCIETY OF AMERICA, INC. *Optics and Spectroscopy* is a cover-to-cover translation of *Optika i Spektroskopiya* and no attempt is made to edit the material other than to correct obvious misprints. The views are those of the original authors and do not represent the Optical Society of America.

TRANSLATION EDITORIAL STAFF

Scientific Editors:

S. B. ELLIOTT, *Occidental College*

C. FELDMAN, *Oak Ridge National Laboratory*

C. W. GARLAND, *Massachusetts Institute of Technology*

M. G. GIBBONS, *Oakland, California*

Managing Editor:
P. R. WAKELING, *WINC*

Sub Editor:
C. MULBRANDON, *WINC*

Published monthly by the American Institute of Physics for the Optical Society of America, Inc., 2100 Pennsylvania Avenue N.W., Washington D.C. 20037. Office of the Managing Editor: WINC, 1613 19th Street N.W., Washington D.C. 20009. Subscription rates:

	U.S., Canada, Mexico	*Europe, etc. (air freight)*	*Asia (air freight)*	*Foreign (surface mail)*
Nonmember	$80	$86	$91	$83
Member	$20	$26	$31	$20

Back numbers: single copy $8.50; full year $85.00

Subscriptions, changes of address, and undeliverable copies should be referred to Subscription Department, American Institute of Physics, 335 East 45th Street, New York, N.Y. 10017. If possible, use the change-of-address form included in every issue of *PHYSICS TODAY*.

Second Class postage paid
at New York, New York and additional mailing offices

Printed in the U.S.A.
Composed by Vance Weaver Composition, Inc, New York, N.Y.

This index is based on the 1973 *Physics and Astronomy Classification Scheme* developed by AIP. It is not a translation. It was produced by computer-aided photocomposition directly from the magnetic tapes of the AIP's Current Physics Information System. Suggestions for improvements as well as other comments are welcome and should be addressed to the Editor.

A new feature introduced in this index is the inclusion of microfilm reel and frame numbers for the convenience of those wishing to find articles in *Current Physics Microform* (CPM), the monthly microfilm edition of the complete set of journals of the American Institute of Physics. These numbers are given in the form **CPM-7201A0321**, where 72 refers to the year, 01 denotes the month (January in this example), A the cartridge (generally there are four cartridges every month: A,B,C,D), and 0321 the frame.

Analytic subject index to Vols. 34–35:

686 1.40 Classical and quantum mechanics
686 1.60 Statistical physics and thermodynamics
686 2.90 Experimental methods and instrumentation for elementary particle and nuclear physics
686 3.10 Atoms
688 3.20 Molecules
695 3.30 Macromolecules and polymers
695 3.40 Physical chemistry
696 4.20 Structure and properties of fluids
698 4.30 Plasma physics
699 5.10 Crystallography and structural configuration of solids
700 5.15 Lattice dynamics
700 5.20 Energy states in solids
701 5.30 Thermal and thermodynamic phenomena
701 5.50 Magnetic properties of solids
701 5.55 Magnetic resonance and relaxation
701 5.60 Optical properties of solids
705 5.70 Passage of particles and radiation through solids
705 5.80 Physics of surfaces, thin films, interfaces and small particles
705 5.90 Solid state devices
705 6.10 Acoustics
705 6.20 Electromagnetic technological applications
706 6.30 Optics
711 6.40 Geophysics
711 6.50 Biophysics

712 **Author index to Vols. 34–35**

SUBJECT INDEX TO VOLUMES 34-35

Papers are arranged in ascending page number order.

1.40. CLASSICAL AND QUANTUM MECHANICS

1.40.40. Classical Electrodynamics and Classical Field Theory

1.40.40.40. Electromagnetic Wave Theory

Trajectories and current lines of nonuniform electromagnetic wave energy in an isotropic absorbing medium —F. I. Fedorov and V. V. Filippov. **35**(1), 77–80 (Jul. 1973); CPM-7312F1835

Fluctuations of equilibrium electromagnetic radiation —A. A. Kolokolov and G. V. Skrotskii. **35**(3), 229–30 (Sep. 1973); CPM-7312F1505

1.40.40.90. Other Topics in Classical Field Theory

Frequency Shift in Scattering of a Plane Wave by Electrons in a Static Magnetic Field —V. R. Khalilov and B. V. Kholomai. **34**(1), 41–3 (Jan. 1973); CPM-7308D0065

Unstable asymmetric resonators —V. V. Lyubimov, N. N. Pevgenen and V. F. Petrov. **35**(6), 657–9 (Dec. 1973); CPM-7404E0075

1.40.50. Quantum Mechanics

Calculation of the boundaries of the electrostatic potential at the nucleus and of the constants of nuclear diamagnetic screening in the ground and first excited states of the isoelectronic sequences of helium and lithium —N. N. Penkina and T. K. Rebane. **35**(5), 461–2 (Nov. 1973); CPM-7403D0001

1.60. STATISTICAL PHYSICS AND THERMODYNAMICS

1.60.40. Fluctuation Phenomena and Random Processes

Theory of Rayleigh Light Scattering —K. A. Valiev and E. N. Ivanov. **34**(1), 87–9 (Jan. 1973); CPM-7308D0111

Isotropic and Anisotropic Light Scattering in Relaxating Fluids —V. P. Romanov, V. A. Solovev and L. S. Filatova. **34**(3), 309–15 (Mar. 1973); CPM-7310E0271

Theory of induced Raman scattering in absorbing media —V. V. Obukhovskii and V. L. Strizhevskii. **35**(1), 27–30 (Jul. 1973); CPM-7312F1785

Statistical theory of induced Mandelstam–Brillouin scattering —V. F. Boitsov and S. G. Slyusarev. **35**(1), 101–3 (Jul. 1973); CPM-7312F1859

Contribution to the theory of light scattering by diatomic molecules —E. N. Ivanov and K. A. Valiev. **35**(2), 169–71 (Aug. 1973); CPM-7312F0093

Fluctuations of equilibrium electromagnetic radiation —A. A. Kolokolov and G. V. Skrotskii. **35**(3), 229–30 (Sep. 1973); CPM-7312F1505

Spontaneous emission of atoms in an intense field and its relationship to noise in lasers —Yu. L. Klimontovich, A. S. Kovalev and P. S. Landa. **35**(6), 590–2 (Dec. 1973); CPM-7404E0008

1.60.70. Thermodynamics

Fluctuations of equilibrium electromagnetic radiation —A. A. Kolokolov and G. V. Skrotskii. **35**(3), 229–30 (Sep. 1973); CPM-7312F1505

2.90. EXPERIMENTAL METHODS AND INSTRUMENTATION FOR ELEMENTARY PARTICLE AND NUCLEAR PHYSICS

Nature of EPR Signals in Nuclear Photoemulsions —R. A. Zhitnikov, N. P. Kocherov, N. G. Romanov and V. A. Khramtsov. **34**(1), 106–7 (Jan. 1973); CPM-7308D0130

3.10. ATOMS

3.10.20. Atomic Structure

3.10.20.10. General Theory and Measurement Techniques

Inequalities for nonrelativistic total energies and potential energy components of isoelectronic atoms —T. K. Rebane. **34**(5), 488–91 (May 1973); CPM-7311E0050

3.10.20.30. Electron Correlation and Configuration Interaction

Application of the local energy method to the consideration of correlation in outer shells of atoms —A. Ya. Biktimirov and I. Ts. Lyast. **34**(6), 599–600 (Jun. 1973); CPM-7311E0161

3.10.20.40. Relativistic Corrections: Fine and Hyperfine Structure and Radiative Shifts

Relativistic Calculations of Transition Energies in Multiply-Charged Two-Electron Ions —G. L. Klimchitskaya and L. N. Labzovskii. **34**(3), 349–50 (Mar. 1973); CPM-7310E0311

Interpolation Formula for Energy Levels of Isoelectronic Atoms and Ions with an Arbitrary Value of the Nuclear Charge $1 \leq Z \leq 137$ — G. L. Klimchitskaya and L. N. Labzovskii. **34**(3), 350–2 (Mar. 1973); CPM-7310E0312

Relativistic theory for spectra of multiply charged ions —G. L. Klimchitskaya and L. N. Labzovskii. **34**(4), 365–7 (Apr. 1973); CPM-7310E0327

Observation of hyperfine splitting in iodine atoms by means of spontaneous emission in pulsed photolysis of CF_3I —V. Yu. Zelesskii, Yu. M. Ivanenko and T. I. Krupenikova. **34**(6), 618–9 (Jun. 1973); CPM-7311E0180

Optical pumping of hyperfine sublevels of the $4^2S_{1/2}$ state of potassium —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **34**(6), 707–8 (Jun. 1973); CPM-7311E0269

Stark constant β_J of the $6^2P_{3/2}$ state of Rb^{85} —V. N. Grigoreva, G. I. Khvostenko and M. P. Chaika. **34**(6), 712–4 (Jun. 1973); CPM-7311E0274

Frequency shifts in a hyperfine transition in potassium produced by various buffer gases —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **35**(1), 93–4 (Jul. 1973); CPM-7312F1851

Stark shifts of the $3p^5ns$ levels in atomic argon —L. V. Gorchakov and P. F. Gruzdev. **35**(2), 224–5 (Aug. 1973); CPM-7312F0148

Compton effect in a magnetic field taking into account the anomalous magnetic moment —Yu. M. Loskutov and V. V. Skobelev. **35**(3), 289–90 (Sep. 1973); CPM-7312F1565

Stark shifts of ns levels of krypton and xenon atoms —L. V. Gorchakov and P. F. Gruzdev. **35**(3), 347 (Sep. 1973); CPM-7312F1623

3.10.20.50. Conventional Atomic Spectroscopy: Atomic Levels, States, Transitions and Oscillator Strengths

Relative Values of Oscillator Strengths for Spectral Lines of Gd I — N. P. Penkin and V. A. Komarovsky. **34**(1), 1–2 (Jan. 1973); CPM-7308D0025

Copyright © 1974 The Optical Society of America

Absorption and Luminescence Spectra of Li Atoms in Noble Gas Matrices —A. A. Belyaeva, Yu. B. Predtechenskii and L. D. Shcherba. **34**(1), 21–4 (Jan. 1973); CPM-7308D0045

Filling of the Upper Levels in the Optical Excitation of Cesium Vapor —A. N. Klyucharev and V. Yu. Sepman. **34**(3), 241–2 (Mar. 1973); CPM-7310E0203

Interpolation Formula for Energy Levels of Isoelectronic Atoms and Ions with an Arbitrary Value of the Nuclear Charge $1 \leq Z \leq 137$ — G. L. Klimchitskaya and L. N. Labzovskii. **34**(3), 350–2 (Mar. 1973); CPM-7310E0312

Radiation Lifetimes of Levels of the Na II Ion —P. F. Gruzdev and A. V. Loginov. **34**(3), 352–3 (Mar. 1973); CPM-7310E0314

Relativistic theory for spectra of multiply charged ions —G. L. Klimchitskaya and L. N. Labzovskii. **34**(4), 365–7 (Apr. 1973); CPM-7310E0327

Resonance broadening of europium lines due to a $^8S^0_{7/2}$–$y^8P_{9/2,7/2,5/2}$ transitions —N. P. Penkin and L. N. Shabanova. **34**(4), 368–70 (Apr. 1973); CPM-7310E0330

Measurement of lifetimes of Kr II levels by electrooptical chronography —Yu. I. Malakhov and V. A. Fabrikant. **34**(4), 371–3 (Apr. 1973); CPM-7310E0333

De-excitation and population of cesium levels during the decay of a cesium–helium discharge plasma. II —N. D. Morgulis and A. I. Kravchenko. **34**(4), 374–7 (Apr. 1973); CPM-7310E0336

Depolarization of fluorescence of atoms due to collisions in the presence of hyperfine structure. III: Perturbation theory —V. N. Rebane and T. K. Rebane. **34**(4), 378–81 (Apr. 1973); CPM-7310E0340

Oscillator strengths of Eu I spectral lines in the 2950–2370 Å region —V. A. Komarovskii. **34**(4), 462–3 (Apr. 1973); CPM-7310E0424

Transition probabilities for some Kr II and Xe II lines —V. P. Podbiralina, Yu. M. Smirnov and N. V. Stegnova. **34**(4), 467–8 (Apr. 1973); CPM-7310E0429

Radiation lifetimes for levels of the Mg III ion —P. F. Gruzdev and A. V. Loginov. **34**(4), 469–70 (Apr. 1973); CPM-7310E0431

Energy levels in a Thomas–Fermi potential and their relation to atomic spectra —Yu. N. Demkov and N. B. Berezina. **34**(5), 485–7 (May 1973); CPM-7311E0047

Resonance broadening of the 377.6-nm thallium line and lifetime of the $7^2S_{1/2}$ level —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **34**(5), 588–9 (May 1973); CPM-7311E0150

Measurement of relative values of oscillator strengths in the spectra of nickel and cobalt atoms by the method of linear absorption —P. P. Ostroumenko and A. M. Eremenko. **34**(6), 605–6 (Jun. 1973); CPM-7311E0167

Collision broadening of the 1.53 μm line of mercury in an Hg–He, Hg–Ne mixture —K. A. Bikmikhametov, V. M. Klementev and V. P. Chebotaev. **34**(6), 616–7 (Jun. 1973); CPM-7311E0178

Neon. Radiative lifetimes for the levels of the $2p^5ms$, $2p^5np$, $2p^5nd$ (m = 3–6, n = 3–5) and $2p^54f$ configurations —P. F. Gruzdev and A. V. Loginov. **35**(1), 1–3 (Jul. 1973); CPM-7312F1759

Relative values of oscillator strengths of Nd I spectral lines —N. P. Penkin and V. A. Komarovskii. **35**(1), 4–5 (Jul. 1973); CPM-7312F1762

Absorption spectrum of lead vapor in ultraviolet and Schumann regions —M. G. Kozlov, S. A. Mileshina and G. P. Startsev. **35**(1), 89–90 (Jul. 1973); CPM-7312F1847

Absorption coefficients of rare-earth elements of the lanthanum group in the ultrasoft X-ray region —S. A. Gribovskii and T. M. Zimkina. **35**(1), 104–5 (Jul. 1973); CPM-7312F1862

Intensity ratios of the head-term components of the diffuse thallium series —L. L. Shimon, E. I. Nepiipov and I. P. Zapesochnyi. **35**(3), 231–2 (Sep. 1973); CPM-7312F1507

Optical cross sections for Ar I and Kr I —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(3), 343 (Sep. 1973); CPM-7312F1619

Broadening of the resonance lines of gallium, indium, and thallium atoms due to collisions with atoms of inert gases —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **35**(4), 351–4 (Oct. 1973); CPM-7402D0093

Use of nonself-reversed line profiles for plasma diagnostics in the burner of a metal–haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

Polarization of deuteron and its effect on the isotopic shift of hydrogen and deuterium levels —L. N. Labzovskii. **35**(5), 574–5 (Nov. 1973); CPM-7403D0114

Radiation lifetimes for the levels of the KII ion —A. V. Loginov and P. F. Gruzdev. **35**(5), 578–81 (Nov. 1973); CPM-7403D0118

Semiempirical determination of the interaction energy of an optical electron with the nucleus in monovalent atoms —N. N. Penkina and T. K. Rebane. **35**(6), 583–5 (Dec. 1973); CPM-7404E0001

Intrashell transitions in the spectra of multicharged phosphorus ions —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev and R. V. Serov. **35**(6), 586–9 (Dec. 1973); CPM-7404E0004

Electron–impact excitation of alkaline earth atoms. Part 2: Strontium singlets —V. P. Starodub, I. S. Alekssakhin, I. I. Garga and I. P. Zapesochnyi. **35**(6), 603–6 (Dec. 1973); CPM-7404E0021

3.10.20.70. Electric and Magnetic Moments

Nonlinear susceptibilities of atomic hydrogen —N. L. Manakov, M. A. Preobrazhenskii and L. P. Rapoport. **35**(1), 14–6 (Jul. 1973); CPM-7312F1772

Polarizability of a hydrogen–like ion with an arbitrary nuclear charge —L. N. Labzovskii. **35**(3), 326–7 (Sep. 1973); CPM-7312F1602

Anisotropy of the g-factor of an atomic system interacting with rotating and oscillating radio–frequency fields —V. V. Zverev and V. G. Pokazanev. **35**(3), 328–30 (Sep. 1973); CPM-7312F1604

3.10.20.90. Other Topics in Atomic Structure

Application of the modified adiabatic approximation to the helium atom —T. K. Rebane and E. P. Smirnov. **34**(6), 601–4 (Jun. 1973); CPM-7311E0163

3.10.30. Resonances, Fluorescence and Excitations

3.10.30.20. Magnetic Resonances

Frequency shift of the parametric resonance of atoms surrounded by a radio–frequency field —L. G. Malyshev and L. N. Novikov. **34**(4), 466–7 (Apr. 1973); CPM-7310E0428

Spin relaxation of Hg^{199}, Hg^{201} optically oriented atoms in a nonuniform magnetic field —I. E. Grinko, A. N. Kuznetsova, P. S. Ovcharenko, B. I. Vintenkov and Yu. M. Petukhov. **34**(5), 576–7 (May 1973); CPM-7311E0138

Alignment of excited helium atoms in a direct-current discharge —S. A. Kazantsev, A. Kisling and M. P. Chaika. **34**(6), 714–5 (Jun. 1973); CPM-7311E0276

Some anomalies in the absorption of a light wave by a medium in a magnetic field —Im Tkhek-de, E. G. Saprykin and A. M. Shalagin. **35**(2), 118–9 (Aug. 1973); CPM-7312F0042

Double resonance of the $5d[7/2]_4$ state of the Xe^{136} isotope —E. B. Aleksandrov and V. N. Kulyasov. **35**(2), 220–1 (Aug. 1973); CPM-7312F0144

Signals and line shape during the observation of magnetic resonance in alkali metal vapors by pulse pumping —N. N. Yakobson. **35**(3), 233–7 (Sep. 1973); CPM-7312F1509

3.10.30.30. Fluorescence and Quenching

Absorption and Luminescence Spectra of Li Atoms in Noble Gas Matrices —A. A. Belyaeva, Yu. B. Predtechenskii and L. D. Shcherba. **34**(1), 21–4 (Jan. 1973); CPM-7308D0045

Filling of the Upper Levels in the Optical Excitation of Cesium Vapor —A. N. Klyucharev and V. Yu. Sepman. **34**(3), 241–2 (Mar. 1973); CPM-7310E0203

Depolarization of fluorescence of atoms due to collisions in the presence of hyperfine structure. III: Perturbation theory —V. N. Rebane and T. K. Rebane. **34**(4), 378–81 (Apr. 1973); CPM-7310E0340

Relaxation of electron multipole moments and collisional depolarization of resonance fluorescence of an ensemble of atoms in the state with an inner quantum number j = 2 —A. G. Petrashen, V. N. Rebane and T. K. Rebane. **35**(3), 240–4 (Sep. 1973); CPM-7312F1516

Collisions of excited atoms under the sensitized fluorescence of Hg–Zn and Hg–Cd —E. N. Morozov and M. L. Sosinskii. **35**(5), 463–6 (Nov. 1973); CPM-7403D0003

Induced absorption of polymethine dye solutions —A. M. Bonch-Bruevich, T. K. Razumova and G. M. Rubanova. **35**(5), 484–7 (Nov. 1973); CPM-7403D0024

Spontaneous emission of atoms in an intense field and its relationship to noise in lasers —Yu. L. Klimontovich, A. S. Kovalev and P. S. Landa. **35**(6), 590–2 (Dec. 1973); CPM-7404E0008

3.10.30.40. Level Crossing and Optical Pumping

Hanle Effect in the Case of Impulse Excitation of the 6^1D_2 Cadmium Level —E. N. Kotlikov. **34**(1), 114–5 (Jan. 1973); CPM-7308D0138

Frequency shift of the parametric resonance of atoms surrounded by a radio-frequency field —L. G. Malyshev and L. N. Novikov. **34**(4), 466–7 (Apr. 1973); CPM-7310E0428

Some experiments in the study of implicit alignment —S. Kazantsev, V. Markov and M. Chaika. **34**(5), 492–3 (May 1973); CPM-7311E0054

Spin relaxation of Hg^{199}, Hg^{201} optically oriented atoms in a nonuniform magnetic field —I. E. Grinko, A. N. Kuznetsova, P. S. Ovcharenko, B. I. Vintenkov and Yu. M. Petukhov. **34**(5), 576–7 (May 1973); CPM-7311E0138

Effect of cascade transitions on the crossing signal from the 6^3S_1 cadmium level —K. K. Boyarskii and E. N. Kotlikov. **34**(5), 592–3 (May 1973); CPM-7311E0154

Optical pumping of hyperfine sublevels of the $4^2S_{1/2}$ state of potassium —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **34**(6), 707–8 (Jun. 1973); CPM-7311E0269

Depolarization of an excited atom by collision with another atomic particle —E. L. Duman. **35**(2), 113–7 (Aug. 1973); CPM-7312F0037

Effect of x-ray irradiation of cells on nuclear relaxation of optically oriented Hg^{199} and Hg^{201} atoms —A. N. Kuznetsov, I. E. Grinko and V. F. Terzeman. **35**(3), 238–9 (Sep. 1973); CPM-7312F1514

Anisotropy of the g-factor of an atomic system interacting with rotating and oscillating radio-frequency fields —V. V. Zverev and V. G. Pokazanev. **35**(3), 328–30 (Sep. 1973); CPM-7312F1604

Using a pulsed laser to determine the cross section of excitation-energy transfer by collision in a Cd–He mixture —A. S. Tibilov, M. K. Shevtsov and A. M. Shukhtin. **35**(4), 365–6 (Oct. 1973); CPM-7402D0107

3.10.30.90. Other Topics in Resonances, etc.

Induced Circular Birefringence in Rubidium Vapor —A. M. Bonch-Bruevich, V. A. Khodovoi and V. V. Khromov. **34**(1), 109–10 (Jan. 1973); CPM-7308D0133

Observation of satellites to the resonance transitions of H- and He-like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

Thermal relaxation of optically oriented atoms colliding with a surface —V. P. Putyrskii. **35**(6), 593–5 (Dec. 1973); CPM-7404E0011

Relaxation of optically oriented atoms in a nonuniform magnetic field —S. P. Dovgopol, V. P. Putyrskii and S. L. Votyakov. **35**(6), 596–9 (Dec. 1973); CPM-7404E0014

3.10.40. Ionization, Continuum Spectra and Atom–Electron Affinity

Some formulas for extrapolation of atomic ionization potentials —Yu. V. Zefirov and M. M. Protodyakanov. **34**(4), 458–9 (Apr. 1973); CPM-7310E0420

Application of the local energy method to the consideration of correlation in outer shells of atoms —A. Ya. Biktimirov and I. Ts. Lyast. **34**(6), 599–600 (Jun. 1973); CPM-7311E0161

Intensity ratios of the head-term components of the diffuse thallium series —L. L. Shimon, E. I. Nepiipov and I. P. Zapesochnyi. **35**(3), 231–2 (Sep. 1973); CPM-7312F1507

Polarization of cw argon laser emission in a transverse magnetic field —A. E. Fotiadi and S. A. Fridrikhov. **35**(5), 556–7 (Nov. 1973); CPM-7403D0096

3.10.90. Other Topics in Atoms

Calculation of the boundaries of the electrostatic potential at the nucleus and of the constants of nuclear diamagnetic screening in the ground and first excited states of the isoelectronic sequences of helium and lithium —N. N. Penkina and T. K. Rebane. **35**(5), 461–2 (Nov. 1973); CPM-7403D0001

3.20. MOLECULES

3.20.10. Molecular Structure and Constants Derived from Experimental Measurements

3.20.10.10. General, Molecular Conformation and Symmetry, and Stereochemistry

Vibrational spectra and conformation of phosphorus- and arsenic-containing heterocyclic compounds —A. B. Remizov, R. R. Shakhidullin, D. F. Fazliev and T. G. Mannafov. **34**(2), 142–3 (Feb. 1973); CPM-7310E0104

3.20.10.30. Bond Strengths, Dissociation Energies, Hydrogen Bonding, Molecular Core Binding Energy, etc.

Nature of the angular force constants of polyatomic molecules —Yu. I. Ponomarev. **35**(5), 482–3 (Nov. 1973); CPM-7403D0022

3.20.10.50. Barrier Heights (Internal Rotation, Inversion); Rotational Isomerism

Microwave spectrum, internal rotation, and dipole moment of 3-methylthiophene —L. N. Gunderova, A. A. Shapkin and N. M. Pozdeev. **34**(6), 703–4 (Jun. 1973); CPM-7311E0265

Selection of moving coordinate systems in the theory of molecules with internal rotation —A. A. Kiselev and A. V. Lyaptsev. **35**(3), 251–4 (Sep. 1973); CPM-7312F1527

Calculation of the reduced moments of inertia for internal rotation in symmetrical molecules —L. N. Margolin, Yu. A. Pentin and V. I. Tyulin. **35**(5), 479–81 (Nov. 1973); CPM-7403D0019

3.20.10.60. Electric and Magnetic Moments (and Derivatives), Polarizability, and Magnetic Susceptibility

Theory of the susceptibility of quantum systems with degenerate levels —P. A. Apanasevich, B. D. Fainberg and B. A. Kiselev. **34**(2), 117–9 (Feb. 1973); CPM-7310E0079

Internal field in a liquid and polarizabilities of interacting molecules. Limiting case of a strong external field —O. G. Bokov. **34**(4), 401–3 (Apr. 1973); CPM-7310E0363

Microwave spectrum, internal rotation, and dipole moment of 3-methylthiophene —L. N. Gunderova, A. A. Shapkin and N. M. Pozdeev. **34**(6), 703–4 (Jun. 1973); CPM-7311E0265

Special features in the calculation of bond dipole moments in planar and linear polyatomic molecules using data from vibrational infrared spectra —L. M. Sverdlov. **35**(1), 37–9 (Jul. 1973); CPM-7312F1795

Change in the polarizability of a molecule and its derivative in the field of a solvent —S. K. Potapov and N. V. Bogachev. **35**(2), 214–6 (Aug. 1973); CPM-7312F0138

Green's function and the dynamic polarizability of H_2^+ —V. A. Davydkin and L. P. Rapoport. **35**(2), 218–9 (Aug. 1973); CPM-7312F0142

3.20.10.70. Rotation, Vibration, and Vibration–Rotation Constants

Transformation Properties of the Coriolis Coupling Constants of Polyatomic Molecules —A. P. Aleksandrov. **34**(1), 33–4 (Jan. 1973); CPM-7308D0057

Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Calculation of the Coriolis Coupling Constants of $XH(Hal)_3$ Molecules (X=C, Si) —V. S. Timoshinin, Yu. A. Aleshonkova and I. N. Godnev. **34**(1), 115–6 (Jan. 1973); CPM-7308D0139

Determination of the Potential Constants of the Ammonia Molecule by Means of a Floating One-Center Wave Function —L. V. Belyavskaya and V. P. Morozov. **34**(3), 260–1 (Mar. 1973); CPM-7310E0222

Determination of a system of force constants and interpretation of the vibrational spectra of γ-picoline, γ-picoline-d_3, and 2,6- and 3,5-lutidines. Symmetric vibrations —V. I. Berezin and M. D. Elkin. **34**(4), 395–7 (Apr. 1973); CPM-7310E0357

Rotational energy of a linear molecule in the $^1\Pi$ electronic state —A. N. Petelin. **35**(1), 20–3 (Jul. 1973); CPM-7312F1778

Vibrational spectrum and force field of the trichloromethoxysilane molecule —V. I. Fedoseeva and Yu. A. Pentin. **35**(1), 43–5 (Jul. 1973); CPM-7312F1801

Assignment of the vibrational frequencies and the force constants of nitropyridines —V. I. Berezin and M. D. Elkin. **35**(1), 49–51 (Jul. 1973); CPM-7312F1807

Microwave spectrum of isotope-substituted pyrazole molecules —R. S. Nasibullin, R. G. Latypova, V. S. Troitskaya, V. G. Vinokurov and N. M. Pozdeev. **35**(1), 52–3 (Jul. 1973); CPM-7312F1810

Molecular constants of hydrogen peroxide. III. Vibrational–rotational constants —G. A. Khachkuruzov and I. N. Przhevalskii. **35**(2), 216–7 (Aug. 1973); CPM-7312F0140

Calculation of the reduced moments of inertia for internal rotation in symmetrical molecules —L. N. Margolin, Yu. A. Pentin and V. I. Tyulin. **35**(5), 479–81 (Nov. 1973); CPM-7403D0019

Calculation of the frequencies and forms of the normal vibrations of pyrrolidine and ND-pyrrolidine —Tran Suan Khoan, Yu. A. Pentin and A. A. Ivlev. **35**(6), 616–8 (Dec. 1973); CPM-7404E0034

Profiles of infrared absorption bands and rotational motion of molecules in liquids. Quantum rotation of hydrogen–chloride molecules —N. D. Orlova and L. A. Pozbnyakova. **35**(6), 624–6 (Dec. 1973); CPM-7404E0042

Dependence of the centrifugal constants on the paremeters of a unitary transformation —V. I. Tolmachev. **35**(6), 684–5 (Dec. 1973); CPM-7404E0102

3.20.10.85. Ionization Potentials

Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov and M. E. Akopyan. **34**(5), 501–2 (May 1973); CPM-7311E0063

3.20.25. Quantum Chemistry

3.20.25.10. General Theory of Electronic Structure, Electronic Transitions, and Chemical Binding

Optical Transitions to Degenerate Electronic Levels —E. S. Medvedev and V. I. Osherov. **34**(1), 29–30 (Jan. 1973); CPM-7308D0053

Model of Collective π-Electron Motion in Molecules. Part 1. —L. V. Iogansen. **34**(3), 246–51 (Mar. 1973); CPM-7310E0208

Kirkwood Formulation of the Theory of the Optical Activity of Oriented Molecules —M. P. Kruchek. **34**(3), 340–1 (Mar. 1973); CPM-7310E0302

3.20.25.20. Molecular Orbital Methods and SCF Calculations

Estimation of the Correlation Component from an Approximate Wave Function —I. D. Lyast and A. Ya. Biktimirov. **34**(3), 252–3 (Mar. 1973); CPM-7310E0214

Determination of the Potential Constants of the Ammonia Molecule by Means of a Floating One-Center Wave Function —L. V. Belyavskaya and V. P. Morozov. **34**(3), 260–1 (Mar. 1973); CPM-7310E0222

Use of molecular-orbital method for the calculation of impurity electronic levels in ionic crystals. 1: Molecular model for the KCl (Tl) center —A. N. Ermoshkin and R. A. Evarestov. **35**(4), 456–8 (Oct. 1973); CPM-7402D0198

3.20.25.30. Electron Correlation and CI Calculations

Estimation of the Correlation Component from an Approximate Wave Function —I. D. Lyast and A. Ya. Biktimirov. **34**(3), 252–3 (Mar. 1973); CPM-7310E0214

3.20.25.35. Semiempirical Methods and Calculations

Calculation of Franck–Condon Factors for a Morse Oscillator by a Generalized WKB Approximation —O. P. Shadrin and N. I. Zhirnov. **34**(3), 337–8 (Mar. 1973); CPM-7310E0299

Semiempirical determination of the interaction energy of an optical electron with the nucleus in monovalent atoms —N. N. Penkina and T. K. Rebane. **35**(6), 583–5 (Dec. 1973); CPM-7404E0001

3.20.25.40. Excited States

Temperature dependence of the lifetime of excited UO_2^{2+} ions in frozen sulfuric acid solutions: role of structural transitions —V. P. Kazakov, V. N. Korobeinikov, Yu. N. Chuvilin, V. V. Rykova and I. G. Kovelzon. **35**(5), 576–7 (Nov. 1973); CPM-7403D0116

3.20.25.45. Properties Other than the Energy

Theory of the susceptibility of quantum systems with degenerate levels —P. A. Apanasevich, B. D. Fainberg and B. A. Kiselev. **34** (2), 117–9 (Feb. 1973); CPM-7310E0079

Calculation of the reduced moments of inertia for internal rotation in symmetrical molecules —L. N. Margolin, Yu. A. Pentin and V. I. Tyulin. **35**(5), 479–81 (Nov. 1973); CPM-7403D0019

3.20.25.50. Molecular Solids

Calculation of the small-vibration spectra of molecular crystals with allowance for the effect of intramolecular vibrations —E. I. Mukhtarov and A. A. Pichurin. **34**(6), 665–6 (Jun. 1973); CPM-7311E0227

Features of exciton absorption in molecular crystals when Fermi resonance is present —M. P. Lisitsa, A. M. Yaremko and N. E. Ralko. **35**(6), 641–4 (Dec. 1973); CPM-7404E0059

Vibronic structure of absorption spectra of molecular crystals —A. A. Delyukov and G. V. Klimusheva. **35**(6), 648–50 (Dec. 1973); CPM-7404E0066

3.20.25.55. Potential Energy Surfaces for Chemical Reactions

Accuracy of potential-curve calculations by the Rydberg–Klein–Rees method —V. S. Ostrovskii and O. S. Pakhomova. **35**(1), 17–9 (Jul. 1973); CPM-7312F1775

3.20.25.60. Environmental and Solvent Effects

Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

Change in the polarizability of a molecule and its derivative in the field of a solvent —S. K. Potapov and N. V. Bogachev. **35**(2), 214–6 (Aug. 1973); CPM-7312F0138

3.20.25.65. Corrections to Born–Oppenheimer Approximation and Jahn–Teller Effect

Optical Transitions to Degenerate Electronic Levels —E. S. Medvedev and V. I. Osherov. **34**(1), 29–30 (Jan. 1973); CPM-7308D0053

3.20.25.70. Hyperfine Interactions

Light-echo study of hyperfine and superhyperfine interactions —Z. M. Kaveeva and V. V. Samartsev. **35**(2), 219–20 (Aug. 1973); CPM-7312F0143

3.20.25.80. Time-Dependent Phenomena: Excitation and Relaxation Processes, and Reaction Rates

Contribution to the theory of nonradiative electron transitions. 2: Franck–Condon factor for the Morse oscillator in the case of an arbitrary parameter —B. I. Makshantsev. **34**(5), 503–4 (May 1973); CPM-7311E0065

Calculation of molecular vibrational–rotational energies by the contact transformation method in the secondary-quantization representation. 1: Diatomic molecules —Yu. S. Makushkin and Vl. G. Tyuterev. **35**(3), 258–61 (Sep. 1973); CPM-7312F1534

Thermal relaxation of optically oriented atoms colliding with a surface —V. P. Putyrskii. **35**(6), 593–5 (Dec. 1973); CPM-7404E0011

Relaxation of optically oriented atoms in a nonuniform magnetic field —S. P. Dovgopol, V. P. Putyrskii and S. L. Votyakov. **35**(6), 596–9 (Dec. 1973); CPM-7404E0014

Influence of Brownian motion on intermolecular energy transfer as a function of the shape and relative position of the spectra —M. S. Mikhelashvili and M. M. Agrest. **35**(6), 636–7 (Dec. 1973); CPM-7404E0054

3.20.30. Molecular Spectroscopy (Measurement and Phenomenology)

3.20.30.15. Radiofrequency and Microwave Spectra

Microwave spectrum, internal rotation, and dipole moment of 3–methylthiophene —L. N. Gunderova, A. A. Shapkin and N. M. Pozdeev. **34**(6), 703–4 (Jun. 1973); CPM-7311E0265

Effect of electron–nuclear interaction on transition probabilities in the theory of vibrational–rotational molecular spectra —A. E. Bolonkin and Yu. S. Makushkin. **35**(1), 46–8 (Jul. 1973); CPM-7312F1804

Microwave spectrum of isotope–substituted pyrazole molecules —R. S. Nasibullin, R. G. Latypova, V. S. Troitskaya, V. G. Vinokurov and N. M. Pozdeev. **35**(1), 52–3 (Jul. 1973); CPM-7312F1810

High–sensitivity millimeter and submillimeter wide–range microwave spectroscopy of gases —S. P. Belov, A. V. Burenin, L. I. Gershtein, V. V. Korolikhin and A. F. Krupnov. **35**(2), 172–6 (Aug. 1973); CPM-7312F0096

3.20.30.20. Infrared Spectra and Raman Spectra

Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Resonance Spontaneous Raman Scattering Spectra of Cryptocyanine in the Crystalline and Adsorbed State —M. Ya. Tsenter, Ya. S. Bobovich and N. M. Belyaevskaya. **34**(1), 44–5 (Jan. 1973); CPM-7308D0068

Special Features of ir Absorption and Fluorescence of Products of Benzophenone Photochemical Reactions —V. I. Melnik, G. A. Puchkovskaya, N. F. Kharchenko and M. P. Shpak. **34**(1), 54–6 (Jan. 1973); CPM-7308D0078

Interpretation of the exponential decrease of the absorption coefficient beyond the head of the 4.3 μ band of carbon dioxide gas —V. V. Fomin. **34**(2), 136–8 (Feb. 1973); CPM-7310E0098

Role of exchange in light–shift scattering for a double well —S. I. Vetchinkin and V. L. Bakhrakh. **34**(2), 139–41 (Feb. 1973); CPM-7310E0101

Vibrational spectra and conformation of phosphorus– and arsenic–containing heterocyclic compounds —A. B. Remizov, R. R. Shakhidullin, D. F. Fazliev and T. G. Mannafov. **34**(2), 142–3 (Feb. 1973); CPM-7310E0104

Influence of intermolecular interactions on the vibrational spectra of molecules, X. Intensities of the infrared absorption bands of H_2O and SO_2 molecules —S. Kh. Akopyan, O. P. Girin, A. M. Kokushkin and N. G. Bakhshiev. **34**(2), 147–9 (Feb. 1973); CPM-7310E0109

Classical Calculation of the Intensity Distribution in the Vibrational–Rotational Spectra of Diatomic Molecules —I. E. Sazonov and N. I. Zhirnov. **34**(3), 254–6 (Mar. 1973); CPM-7310E0216

Identification of the νP=O and νC–O Bands in the Infrared Spectra of Complexes of Trimethylphosphine Oxide with Carboxylic Acids —G. V. Gusakova, E. V. Ryltsev and A. L. Smolyanskii. **34**(3), 262–4 (Mar. 1973); CPM-7310E0224

Effect of Fermi Resonance, Bethe and Davidov Splitting on the Fine Structure of Raman Scattering in Carbon Disulfide —I. I. Kondilenko, P. A. Korotkov and G. S. Litvinov. **34**(3), 265–7 (Mar. 1973); CPM-7310E0227

Theory of the Vibrational Spectrum of Benzene. Author's Reply to Comments —M. A. Kovner. **34**(3), 339–40 (Mar. 1973); CPM-7310E0301

Out–of–Plane Vibrations of Perylene —L. M. Babkov, M. A. Kovner and V. B. Rents. **34**(3), 354–5 (Mar. 1973); CPM-7310E0316

Some Characteristics of Resonant Raman Scattering —S. G. Rautian and Ya. S. Bobovich. **34**(3), 356–7 (Mar. 1973); CPM-7310E0318

Structure of water vapor at 350 C and 158 bar pressure —G. V. Yukhnevich and A. A. Vetrov. **34**(4), 387–90 (Apr. 1973); CPM-7310E0349

Determination of a system of force constants and interpretation of the vibrational spectra of γ–picoline, γ–picoline–d_3, and 2,6– and 3,5–lutidines. Symmetric vibrations —V. I. Berezin and M. D. Elkin. **34**(4), 395–7 (Apr. 1973); CPM-7310E0357

Higher vibrational states of polyatomic molecules. I —A. A. Ovchinnikov and N. S. Erikhman. **34**(4), 398–400 (Apr. 1973); CPM-7310E0360

Possibility of creating population inversion and infrared signal amplifications on excited molecular vibration levels in conditions of unsteady induced Raman scattering —M. A. Kovner, B. A. Medvedev and O. M. Parshkov. **34**(4), 404–6 (Apr. 1973); CPM-7310E0366

Calculation of the frequencies of the in–plane vibrations of nitrobenzene —K. M. Danchinov, E. A. Gastilovich, A. N. Rodionov and D. N. Shigorin. **34**(4), 456–8 (Apr. 1973); CPM-7310E0418

High–speed recording of Raman spectra of liquids and gases —V. B. Podobedov, A. M. Pyndyk and Kh. E. Sterin. **34**(4), 478–9 (Apr. 1973); CPM-7310E0440

Total emission of the fundamental NO band at high temperatures — A. A. Konkov and A. V. Vorontsov. **34**(5), 595–6 (May 1973); CPM-7311E0157

Resonance broadening of the infrared absorption bands of molecules in liquids —A. I. Mardaeva, A. F. Bondarev and Yu. S. Rusetskii. **34**(6), 631–2 (Jun. 1973); CPM-7311E0193

Effect of the absorption of matter on Raman–line intensity measurements —S. P. Baranov and V. D. Prisyazhnyi. **34**(6), 633–4 (Jun. 1973); CPM-7311E0195

Calculation of intensities for water–vapor spectral lines in bands of the first overtone and combination frequencies —O. K. Voitsekhovskaya, I. I. Ippolitov and Yu. S. Makushkin. **35**(1), 24–6 (Jul. 1973); CPM-7312F1782

Theory of induced Raman scattering in absorbing media —V. V. Obukhovskii and V. L. Strizhevskii. **35**(1), 27–30 (Jul. 1973); CPM-7312F1785

Apparatus for the recording of Raman spectra of gases —A. M. Pyndyk and V. B. Podobedov. **35**(1), 31–2 (Jul. 1973); CPM-7312F1789

Special features in the calculation of bond dipole moments in planar and linear polyatomic molecules using data from vibrational infrared spectra —L. M. Sverdlov. **35**(1), 37–9 (Jul. 1973); CPM-7312F1795

Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

Vibrational spectrum and force field of the trichloromethoxysilane molecule —V. I. Fedoseeva and Yu. A. Pentin. **35**(1), 43–5 (Jul. 1973); CPM-7312F1801

Effect of electron–nuclear interaction on transition probabilities in the theory of vibrational–rotational molecular spectra —A. E. Bolonkin and Yu. S. Makushkin. **35**(1), 46–8 (Jul. 1973); CPM-7312F1804

Assignment of the vibrational frequencies and the force constants of nitropyridines —V. I. Berezin and M. D. Elkin. **35**(1), 49–51 (Jul. 1973); CPM-7312F1807

Effect of excitation–light frequency on resonance Raman spectra —J. A. Koningstein. **35**(2), 152–3 (Aug. 1973); CPM-7312F0076

Infrared spectra of cryosystems. I. Linear molecules —V. V. Bertsev, M. O. Bulanin and T. D. Kolomiitsova. **35**(2), 162–4 (Aug. 1973); CPM-7312F0086

Effect of concentration fluctuations in solutions on line widths in molecular vibrational spectra —A. F. Bondarev and A. I. Mardaeva. **35**(2), 167–8 (Aug. 1973); CPM-7312F0091

Out–of–plane vibrations of the coronene molecule —L. M. Babkov and M. A. Kovner. **35**(2), 214 (Aug. 1973); CPM-7312F0138

Change in the polarizability of a molecule and its derivative in the field of a solvent —S. K. Potapov and N. V. Bogachev. **35**(2), 214–6 (Aug. 1973); CPM-7312F0138

Calculation of the vibrational spectrum of isobutyronitrile —V. M. Baryshev, V. V. Ryabova and R. Sh. Frenkel. **35**(3), 338–9 (Sep. 1973); CPM-7312F1614

Intensity and half–width of CO_2 lines in the 14° 1–00° O band —V. A. Boldyrev and K. P. Vasilevskii. **35**(5), 476–8 (Nov. 1973); CPM-7403D0016

Empirical calculation of the intensities of the NH valence vibrations of the fragment $-NH-NH_2$ —S. I. Chekushin, E. V. Titov and V. I. Rybachenko. **35**(5), 576 (Nov. 1973); CPM-7403D0116

Determinantal form of the sum rules in the theory of molecular vibrational spectra —Nguyen Thke Kyong and D. S. Bystrov. **35** (6), 613–5 (Dec. 1973); CPM-7404E0031

Calculation of the frequencies and forms of the normal vibrations of pyrrolidine and ND–pyrrolidine —Tran Suan Khoan, Yu. A. Pentin and A. A. Ivlev. **35**(6), 616–8 (Dec. 1973); CPM-7404E0034

Absolute intensities of the lines in the Raman spectra of monohalogen–substituted benzenes in the liquid and gasesous states —G. A. Vorobeva and S. P. Timonin. **35**(6), 619–21 (Dec. 1973); CPM-7404E0037

Profiles of infrared absorption bands and rotational motion of molecules in liquids. Quantum rotation of hydrogen–chloride molecules —N. D. Orlova and L. A. Pozbnyakova. **35**(6), 624–6 (Dec. 1973); CPM-7404E0042

Pure rotation spectra of raman scattering of tetrahedral XY_4 molecules in the ground vibrational state —E. M. Verlan. **35**(6), 627–9 (Dec. 1973); CPM-7404E0045

3.20.30.30. Visible and Ultraviolet Spectra

Correlation between the Intensity of a Transition and the Intensity Distribution in the Electronic Spectra of Organic Compounds —V. P. Klochkov and V. L. Bogdanov. **34**(1), 25–8 (Jan. 1973); CPM-7308D0049

Some Problems of the Spectroscopy of Organic Compounds —S. I. Kubarev and O. A. Ponomarev. **34**(1), 46–8 (Jan. 1973); CPM-7308D0070

Effect of Nonadiabaticity on Line Intensities in the Vibronic Spectra of Europium Complexes —K. I. Gurev and M. A. Kovner. **34**(1), 104–6 (Jan. 1973); CPM-7308D0128

Absorption Spectra of Excited Molecules of Cyanine Dyes —M. D. Galanin and Z. A. Chizhikova. **34**(1), 110–1 (Jan. 1973); CPM-7308D0134

Absorption and Fluorescence Spectra of Solutions of Anthracene and Its Methyl Derivatives in a Polymethylmethacrylate Matrix —D. A. Sukhov and F. I. Vilesov. **34**(1), 112–4 (Jan. 1973); CPM-7308D0136

Absorption of He–Ne laser radiation by an iodine molecular beam — N. R. Batarchukova, Ts. I. Glozman and A. I. Kartashev. **34**(2), 233–4 (Feb. 1973); CPM-7310E0195

Excitation of the $B^3\Pi_g$ State of Molecular Nitrogen in a Glow Discharge —O. V. Ravodina, T. N. Popova, A. A. Eliseev and S. S. Smolyakov. **34**(3), 243–5 (Mar. 1973); CPM-7310E0205

Kirkwood Formulation of the Theory of the Optical Activity of Oriented Molecules —M. P. Kruchek. **34**(3), 340–1 (Mar. 1973); CPM-7310E0302

Triplet–Triplet Absorption Spectrum of the Biphenyl Molecule —V. N. Mochalkin. **34**(3), 348–9 (Mar. 1973); CPM-7310E0310

Change in the Configuration of Molecules on Isolation in a Matrix — K. S. Krasnov and V. G. Solomonik. **34**(3), 357–8 (Mar. 1973); CPM-7310E0319

Excitation temperature for active nitrogen —A. I. Lyutui and L. D. Melnikov. **34**(4), 385–6 (Apr. 1973); CPM-7310E0347

Polarization of electronic transitions in the disodium chlorin complex and its monoanion —V. G. Maslov. **34**(5), 505–7 (May 1973); CPM-7311E0067

Some results in the description of solvatochromic phenomena by taking account pairwise van der Waals interactions of molecules — A. I. Perov and N. G. Bakhshiev. **34**(5), 518–20 (May 1973); CPM-7311E0080

Intramolecular charge–transfer bands in the electronic–vibrational spectra of substituted benzenes —A. E. Lutskii. **34**(6), 624–6 (Jun. 1973); CPM-7311E0186

Relation between observed and true absorption spectra of molecules in a condensed medium. 7: One of the physical reasons for the failure of Beer's law in concentrated solutions —B. A. Mikhailov, V. M. Zolotarev and N. G. Bakhshiev. **34**(6), 627–30 (Jun. 1973); CPM-7311E0189

Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Mirror symmetry in spectra and properties of excited states of uranyl complexes —I. M. Kopashova, G. N. Larkin and D. S. Umreiko. **35**(2), 143–6 (Aug. 1973); CPM-7312F0067

Measurement of the parameters of the absorption line $\lambda_0 = 398$ μm in the rotational spectrum of water vapor —V. Ya. Ryadov and N. I. Furashov. **35**(3), 255–7 (Sep. 1973); CPM-7312F1531

Calculation of the Franck–Condon factors for the processes involved in the excitation of the molecular bands of the first negative system of nitrogen and carbon monoxide —V. A. Kosinov and P. A. Skovorodko. **35**(3), 344 (Sep. 1973); CPM-7312F1620

Line shifts in the A oxygen band as a function of the pressure —V. D. Galkin. **35**(4), 367–9 (Oct. 1973); CPM-7402D0109

Studies on the character of broadening of the energy states of polymethine–dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and I. O. Starobogatov. **35**(4), 374–6 (Oct. 1973); CPM-7402D0116

Induced absorption of polymethine dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and G. M. Rubanova. **35**(5), 484–7 (Nov. 1973); CPM-7403D0024

Spectral–luminescent properties of azomethines in the quinoid form. I. Anils 3–oxybenzofuran–2–aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. **35**(6), 610–2 (Dec. 1973); CPM-7404E0028

3.20.30.40. Vacuum Ultraviolet Spectra

Concave diffraction gratings on aspherical surfaces with one plane of symmetry —S. A. Strezhnev and A. I. Andreeva. **35**(5), 572–4 (Nov. 1973); CPM-7403D0112

3.20.30.60. Fluorescence, Radiationless Transitions, and Intersystem Crossing

Spectroscopic Study of Vibrational–Energy Scattering in I_2 Molecules Excited by a He–Ne Laser —E. D. Bugrim, S. N. Makrenko and I. L. Tsikora. **34**(1), 35–7 (Jan. 1973); CPM-7308D0059

Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Special Features of ir Absorption and Fluorescence of Products of Benzophenone Photochemical Reactions —V. I. Melnik, G. A. Puchkovskaya, N. F. Kharchenko and M. P. Shpak. **34**(1), 54–6 (Jan. 1973); CPM-7308D0078

Absorption and Fluorescence Spectra of Solutions of Anthracene and Its Methyl Derivatives in a Polymethylmethacrylate Matrix —D. A. Sukhov and F. I. Vilesov. **34**(1), 112–4 (Jan. 1973); CPM-7308D0136

Spectral dependence of the lifetime of the excited state of vapors of complex molecules —L. G. Pikulik, V. A. Tolkachev and V. A. Yakovenko. **34**(2), 129–32 (Feb. 1973); CPM-7310E0091

Use of Triplet–Triplet Energy Transfer for Determining Quantum Yield of Interconversion into a Triplet State —V. L. Pugachev and A. K. Chibisov. **34**(3), 284–5 (Mar. 1973); CPM-7310E0246

Effective Excitation Cross Sections of Red System Bands of CN —V. I. Korol and S. M. Kishko. **34**(3), 344 (Mar. 1973); CPM-7310E0306

Some results in the description of solvatochromic phenomena by taking account pairwise van der Waals interactions of molecules — A. I. Perov and N. G. Bakhshiev. **34**(5), 518–20 (May 1973); CPM-7311E0080

Description of polarized multipole luminescence —K. S. Adzerikho and A. Ya. Silenko. **34**(5), 525–6 (May 1973); CPM-7311E0087

Fine structure of the fluorescence spectrum of anthracene vapors under anti–Stokes excitation —S. O. Mirumyants, E. A. Vandyukov and Yu. S. Demchuk. **34**(5), 596–7 (May 1973); CPM-7311E0158

Intramolecular nonradiative transitions in the condensed phase —V. G. Plotnikov and G. G. Konoplev. **34**(6), 639–42 (Jun. 1973); CPM-7311E0201

Effect of quenchers on fluorescence spectra of polar solutions of dyes —V. I. Tomin, A. N. Rubinov and V. F. Voronin. **34**(6), 643–5 (Jun. 1973); CPM-7311E0205

Nonradiative energy transfer from rare earth ions to dyes. III. Effect of ionic Coulomb interaction on dipole–dipole energy transfer in water —T. A. Shakhverdov and E. N. Bodunov. **34**(6), 646–50 (Jun. 1973); CPM-7311E0208

Depolarization of photoluminescence by powerful excitation —Yu. T. Mazurenko, V. V. Danilov and S. I. Vorontsova. **35**(1), 107–8 (Jul. 1973); CPM-7312F1865

Electronic absorption and emission spectra of naphthalene and naphthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Polarization of luminescence of complex molecules under quenching by light —Yu. T. Mazurenko. **35**(2), 137–9 (Aug. 1973); CPM-7312F0061

Intensity distribution in electronic–vibrational progressions of the 9,10–anthraquinone luminescence spectrum —N. S. Smirnov, E. A. Gastilovich and D. N. Shigorin. **35**(2), 140–2 (Aug. 1973); CPM-7312F0064

Mirror symmetry in spectra and properties of excited states of uranyl complexes —I. M. Kopashova, G. N. Larkin and D. S. Umreiko. **35**(2), 143–6 (Aug. 1973); CPM-7312F0067

Variation of luminescence band shape in a high electric field —S. F. Timashev. **35**(3), 339–40 (Sep. 1973); CPM-7312F1615

Interpretation of luminescence spectra of uranyl molybdate and uranyl tungstate —V. F. Zolin, S. P. Rozman and P. S. Fisher. **35**(3), 345–6 (Sep. 1973); CPM-7312F1621

Breakdown of a complex spectral contour into individual symmetric bands —V. I. Mikhailenko and V. I. Kucherenko. **35**(4), 370–3 (Oct. 1973); CPM-7402D0112

Shift in the flourescence spectrum of molecules in a nonresonant–laser field —A. N. Rubinov, V. I. Tomin and V. A. Zhivnov. **35**(4), 451–2 (Oct. 1973); CPM-7402D0193

Spectral evidence of matrix–isolated and collective centers in frozen n–paraffin solutions —L. A. Klimova, A. I. Ogloblina, G. N. Nersesova and V. I. Glyadkovskii. **35**(5), 488–90 (Nov. 1973); CPM-7403D0028

Temperature dependence of nonradiative electron transitions in the solid phase —A. A. Kovalev and B. I. Makshantsev. **35**(5), 494–6 (Nov. 1973); CPM-7403D0034

Spectral–luminescent properties of azomethines in the quinoid form. I. Anils 3–oxybenzofuran–2–aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. **35**(6), 610–2 (Dec. 1973); CPM-7404E0028

Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Influence of Brownian motion on intermolecular energy transfer as a function of the shape and relative position of the spectra —M. S. Mikhelashvili and M. M. Agrest. **35**(6), 636–7 (Dec. 1973); CPM-7404E0054

3.20.30.65. Diffuse Spectra: Photo–ionization, Auto–ionization, Dissociation, and Predissociation

The mechanism of autoionization processes in CS_2 —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(2), 144–6 (Feb. 1973); CPM-7310E0106

Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov and M. E. Akopyan. **34**(5), 501–2 (May 1973); CPM-7311E0063

Applicability of the Franck–Condon principle to the autoionization of the N_2 molecule —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(5), 590 (May 1973); CPM-7311E0152

Photoionization processes in molecular iodine —M. E. Akopyan, F. I. Vilesov and Yu. L. Sergeev. **35**(5), 472–5 (Nov. 1973); CPM-7403D0012

3.20.30.70. Level Crossing and Optical Pumping

Level Crossover Signal in the Case of an Arbitrary Time Dependence of Excitation —M. P. Chaika. **34**(1), 108 (Jan. 1973); CPM-7308D0132

Amplication and induced absorption in solutions of organic luminophors —A. V. Aristov and Yu. S. Maslyukov. **35**(6), 660–1 (Dec. 1973); CPM-7404E0078

Lasing of pyrilium perchlorate solutions by lamp pumping[1)] —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(6), 675–6 (Dec. 1973); CPM-7404E0093

3.20.30.75. Oscillator Strengths, Absolute Intensities, Relative Intensities, Frank–Condon Factors, Line Widths and Shapes

Correlation between the Intensity of a Transition and the Intensity Distribution in the Electronic Spectra of Organic Compounds —V. P. Klochkov and V. L. Bogdanov. **34**(1), 25–8 (Jan. 1973); CPM-7308D0049

Effect of Nonadiabaticity on Line Intensities in the Vibronic Spectra of Europium Complexes —K. I. Gurev and M. A. Kovner. **34**(1), 104–6 (Jan. 1973); CPM-7308D0128

Influence of intermolecular interactions on the vibrational spectra of molecules, X. Intensities of the infrared absorption bands of H_2O and SO_2 molecules —S. Kh. Akopyan, O. P. Girin, A. M. Kokushkin and N. G. Bakhshiev. **34**(2), 147–9 (Feb. 1973); CPM-7310E0109

Classical Calculation of the Intensity Distribution in the Vibrational–Rotational Spectra of Diatomic Molecules —I. E. Sazonov and N. I. Zhirnov. **34**(3), 254–6 (Mar. 1973); CPM-7310E0216

Special Features of the Formation of the Wing Contours of Self–Broadened Spectral Lines —A. I. Lizengevich and V. V. Fomin. **34**(3), 277–9 (Mar. 1973); CPM-7310E0239

Calculation of Franck–Condon Factors for a Morse Oscillator by a Generalized WKB Approximation —O. P. Shadrin and N. I. Zhirnov. **34**(3), 337–8 (Mar. 1973); CPM-7310E0299

Determination of the Potential of Interatomic Interaction from the Parameters of Satellite Bands of Spectral Lines —E. A. Andreev. **34**(3), 346–7 (Mar. 1973); CPM-7310E0308

Triplet–Triplet Absorption Spectrum of the Biphenyl Molecule —V. N. Mochalkin. **34**(3), 348–9 (Mar. 1973); CPM-7310E0310

Contribution to the theory of nonradiative electron transitions. 2: Franck–Condon factor for the Morse oscillator in the case of an arbitrary parameter —B. I. Makshantsev. **34**(5), 503–4 (May 1973); CPM-7311E0065

Determination of oscillator strengths for transitions in HCl–Sn^{2+} solution —M. U. Belyi, I. V. Zakharchenko and B. A. Okhrimenko. **34**(5), 521–4 (May 1973); CPM-7311E0083

Applicability of the Franck–Condon principle to the autoionization of the N_2 molecule —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(5), 590 (May 1973); CPM-7311E0152

Resonance broadening of the infrared absorption bands of molecules in liquids —A. I. Mardaeva, A. F. Bondarev and Yu. S. Rusetskii. **34**(6), 631–2 (Jun. 1973); CPM-7311E0193

Effect of the absorption of matter on Raman–line intensity measurements —S. P. Baranov and V. D. Prisyazhnyi. **34**(6), 633–4 (Jun. 1973); CPM-7311E0195

Calculation of intensities for water–vapor spectral lines in bands of the first overtone and combination frequencies —O. K. Voitsekhovskaya, I. I. Ippolitov and Yu. S. Makushkin. **35**(1), 24–6 (Jul. 1973); CPM-7312F1782

Effect of excitation–light frequency on resonance Raman spectra —J. A. Koningstein. **35**(2), 152–3 (Aug. 1973); CPM-7312F0076

Effect of concentration fluctuations in solutions on line widths in molecular vibrational spectra —A. F. Bondarev and A. I. Mardaeva. **35**(2), 167–8 (Aug. 1973); CPM-7312F0091

Measurement of the parameters of the absorption line $\lambda_0 = 398$ μm in the rotational spectrum of water vapor —V. Ya. Ryadov and N. I. Furashov. **35**(3), 255–7 (Sep. 1973); CPM-7312F1531

Variation of luminescence band shape in a high electric field —S. F. Timashev. **35**(3), 339–40 (Sep. 1973); CPM-7312F1615

Calculation of the Franck–Condon factors for the processes involved in the excitation of the molecular bands of the first negative system of nitrogen and carbon monoxide —V. A. Kosinov and P. A. Skovorodko. **35**(3), 344 (Sep. 1973); CPM-7312F1620

Breakdown of a complex spectral contour into individual symmetric bands —V. I. Mikhailenko and V. I. Kucherenko. **35**(4), 370–3 (Oct. 1973); CPM-7402D0112

Calculation of the frequencies and forms of the normal vibrations of pyrrolidine and ND–pyrrolidine —Tran Suan Khoan, Yu. A. Pentin and A. A. Ivlev. **35**(6), 616–8 (Dec. 1973); CPM-7404E0034

Absolute intensities of the lines in the Raman spectra of monohalogen–substituted benzenes in the liquid and gasesous states —G. A. Vorobeva and S. P. Timonin. **35**(6), 619–21 (Dec. 1973); CPM-7404E0037

3.20.30.85. Calculation of Rotational and Vibrational Levels, and Interactions (Including Non–Rigid Rotors, Anharmonic Oscillators)

Applicability of the Rigid and Nonrigid Top Models for the Reproduction of the System of Rotational Levels of Asymmetric Polyatomic Molecules —V. N. Bryukhanov and Yu. S. Makushkin. **34**(1), 31–2 (Jan. 1973); CPM-7308D0055

Transformation Properties of the Coriolis Coupling Constants of Polyatomic Molecules —A. P. Aleksandrov. **34**(1), 33–4 (Jan. 1973); CPM-7308D0057

Calculation of the Coriolis Coupling Constants of $XH(Hal)_3$ Molecules (X=C, Si) —V. S. Timoshinin, Yu. A. Aleshonkova and I. N. Godnev. **34**(1), 115–6 (Jan. 1973); CPM-7308D0139

Vibrational rotational energies of linear triatomic molecules —A. Ya. Dzyublik. **34**(2), 133–5 (Feb. 1973); CPM-7310E0095

Role of exchange in light-shift scattering for a double well —S. I. Vetchinkin and V. L. Bakhrakh. **34**(2), 139–41 (Feb. 1973); CPM-7310E0101

Classical Calculation of the Intensity Distribution in the Vibrational–Rotational Spectra of Diatomic Molecules —I. E. Sazonov and N. I. Zhirnov. **34**(3), 254–6 (Mar. 1973); CPM-7310E0216

Theory of the Vibrational Spectrum of Benzene. Author's Reply to Comments —M. A. Kovner. **34**(3), 339–40 (Mar. 1973); CPM-7310E0301

Out–of–Plane Vibrations of Perylene —L. M. Babkov, M. A. Kovner and V. B. Rents. **34**(3), 354–5 (Mar. 1973); CPM-7310E0316

Determination of a system of force constants and interpretation of the vibrational spectra of γ–picoline, γ–picoline–d_3, and 2,6– and 3,5–lutidines. Symmetric vibrations —V. I. Berezin and M. D. Elkin. **34**(4), 395–7 (Apr. 1973); CPM-7310E0357

Higher vibrational states of polyatomic molecules. I —A. A. Ovchinnikov and N. S. Erikhman. **34**(4), 398–400 (Apr. 1973); CPM-7310E0360

Possibility of creating population inversion and infrared signal amplifications on excited molecular vibration levels in conditions of unsteady induced Raman scattering —M. A. Kovner, B. A. Medvedev and O. M. Parshkov. **34**(4), 404–6 (Apr. 1973); CPM-7310E0366

Calculation of the frequencies of the in–plane vibrations of nitrobenzene —K. M. Danchinov, E. A. Gastilovich, A. N. Rodionov and D. N. Shigorin. **34**(4), 456–8 (Apr. 1973); CPM-7310E0418

Anharmonic potential function for a water molecule —V. P. Morozov and N. T. Storchai. **34**(5), 508–9 (May 1973); CPM-7311E0070

Higher vibrational states of polyatomic molecules. Part 2 —A. A. Ovchinnikov and N. S. Erikhman. **34**(5), 510–1 (May 1973); CPM-7311E0072

Calculation of the small–vibration spectra of molecular crystals with allowance for the effect of intramolecular vibrations —E. I. Mukhtarov and A. A. Pichurin. **34**(6), 665–6 (Jun. 1973); CPM-7311E0227

Approximate estimate of the form of molecular vibrations —B. A. Okhrimenko. **34**(6), 719–20 (Jun. 1973); CPM-7311E0281

Rotational energy of a linear molecule in the $^1\Pi$ electronic state —A. N. Petelin. **35**(1), 20–3 (Jul. 1973); CPM-7312F1778

Calculation of intensities for water–vapor spectral lines in bands of the first overtone and combination frequencies —O. K. Voitsekhovskaya, I. I. Ippolitov and Yu. S. Makushkin. **35**(1), 24–6 (Jul. 1973); CPM-7312F1782

Vibrational spectrum and force field of the trichloromethoxysilane molecule —V. I. Fedoseeva and Yu. A. Pentin. **35**(1), 43–5 (Jul. 1973); CPM-7312F1801

Effect of electron–nuclear interaction on transition probabilities in the theory of vibrational–rotational molecular spectra —A. E. Bolonkin and Yu. S. Makushkin. **35**(1), 46–8 (Jul. 1973); CPM-7312F1804

Assignment of the vibrational frequencies and the force constants of nitropyridines —V. I. Berezin and M. D. Elkin. **35**(1), 49–51 (Jul. 1973); CPM-7312F1807

Relationship between the characteristics of the intramolecular and intermolecular vibrations of XY_3 type molecules —A. T. Kozulin. **35**(1), 92–3 (Jul. 1973); CPM-7312F1850

Rotational spectra of nonpolar molecules —M. R. Aliev and V. M. Mikhailov. **35**(2), 147–51 (Aug. 1973); CPM-7312F0071

Selection of moving coordinate systems in the theory of molecules with internal rotation —A. A. Kiselev and A. V. Lyaptsev. **35**(3), 251–4 (Sep. 1973); CPM-7312F1527

Calculation of molecular vibrational–rotational energies by the contact transformation method in the secondary–quantization representation. I: Diatomic molecules —Yu. S. Makushkin and Vl. G. Tyuterev. **35**(3), 258–61 (Sep. 1973); CPM-7312F1534

Calculation of the vibrational spectrum of isobutyronitrile —V. M. Baryshev, V. V. Ryabova and R. Sh. Frenkel. **35**(3), 338–9 (Sep. 1973); CPM-7312F1614

Calculation of the distribution over vibrational and rotational states in the reaction $A^- + A \rightarrow A_2 + e$ by means of the generalized Franck–Condon principle —Yu. N. Demkov and V. V. Kuchinskii. **35**(5), 467–9 (Nov. 1973); CPM-7403D0007

Formulas for probabilities of two–photon electronic–vibrational transitions —M. V. Priyutov and S. K. Potapov. **35**(5), 552–3 (Nov. 1973); CPM-7403D0092

Determinantal form of the sum rules in the theory of molecular vibrational spectra —Nguyen Thke Kyong and D. S. Bystrov. **35**(6), 613–5 (Dec. 1973); CPM-7404E0031

Effect of the electrooptical anharmonicity of vibrations on the probabilities of vibrational transitions of molecules in dipolar liquids —A. N. Sadykov and M. M. Zaripov. **35**(6), 622–3 (Dec. 1973); CPM-7404E0040

Pure rotation spectra of raman scattering of tetrahedral XY_4 molecules in the ground vibrational state —E. M. Verlan. **35**(6), 627–9 (Dec. 1973); CPM-7404E0045

New relations between the vibrational–rotational interaction constants of polyatomic molecules —M. R. Aliev and V. T. Aleksanyan. **35**(6), 676–7 (Dec. 1973); CPM-7404E0094

Dependence of the centrifugal constants on the paremeters of a unitary transformation —V. I. Tolmachev. **35**(6), 684–5 (Dec. 1973); CPM-7404E0102

3.20.30.87. Calculation of Vibronic and Rovibronic Interactions, and Rotation – Electron–Spin Interactions (Including Hund's Coupling Cases, Renner–Teller Effects, etc.)

Rotational energy of a linear molecule in the $^1\Pi$ electronic state —A. N. Petelin. **35**(1), 20–3 (Jul. 1973); CPM-7312F1778

Allowance for the differences between effective and average fields in the experimental determination of the characteristics of molecular transitions from the vibronic spectra of the anthracene crystal —I. I. Shigorin, V. S. Libov and N. G. Bakhshiev. **35**(2), 134–6 (Aug. 1973); CPM-7312F0058

3.20.30.90. Other Topics in Molecular Spectroscopy

Determination of the polarizations of electronic transitions by the dischroism method in molecules of low symmetry. I. Relationship between the orientation and structure of molecules introduced into an extenden polymer film —K. R. Popov. **35**(6), 607–9 (Dec. 1973); CPM-7404E0025

3.20.40. Magnectic Resonances and Relaxation in Molecules

Nature of EPR Signals in Nuclear Photoemulsions —R. A. Zhitnikov, N. P. Kocherov, N. G. Romanov and V. A. Khramtsov. **34**(1), 106–7 (Jan. 1973); CPM-7308D0130

Spin exchange between triplet excitons —E. L. Rumyantsev and K. M. Salikhov. **35**(3), 332–4 (Sep. 1973); CPM-7312F1608

3.20.60. Collision Processes and Interaction of Molecules, Atoms, or Ions

3.20.60.10. General

Nature of the angular force constants of polyatomic molecules —Yu. I. Ponomarev. **35**(5), 482–3 (Nov. 1973); CPM-7403D0022

3.20.60.20. General Intermolecular Potential Functions and Intermediate Range Forces

Determination of the Potential of Interatomic Interaction from the Parameters of Satellite Bands of Spectral Lines —E. A. Andreev. **34**(3), 346–7 (Mar. 1973); CPM-7310E0308

Universal intermolecular interactions and temperature dependence of the refractive index of nonpolar liquids —O. G. Bokov. **34**(5), 577–9 (May 1973); CPM-7311E0139

Splitting of the ν (C≡N) band of acetonitrile on intermolecular interaction with antimony trichloride in solution —Yu. P. Egorov, E. V. Ryltsev and I. F. Tsymbal. **35**(2), 165–6 (Aug. 1973); CPM-7312F0089

Broadening of the resonance lines of gallium, indium, and thallium atoms due to collisions with atoms of inert gases —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **35**(4), 351–4 (Oct. 1973); CPM-7402D0093

3.20.60.25. Long–Range Intermolecular Forces

Influence of intermolecular interactions on the vibrational spectra of molecules, X. Intensities of the infrared absorption bands of H_2O and SO_2 molecules —S. Kh. Akopyan, O. P. Girin, A. M. Kokushkin and N. G. Bakhshiev. **34**(2), 147–9 (Feb. 1973); CPM-7310E0109

Manifestation of weak intermolecular interactions in the vibrational spectra of solutions of polar substances in nonpolar solvents —A. V. Sechkarev and G. E. Trostentsova. **34**(4), 407–11 (Apr. 1973); CPM-7310E0369

Some results in the description of solvatochromic phenomena by taking account pairwise van der Waals interactions of molecules — A. I. Perov and N. G. Bakhshiev. **34**(5), 518–20 (May 1973); CPM-7311E0080

Nonradiative energy transfer from rare earth ions to dyes. III. Effect of ionic Coulomb interaction on dipole–dipole energy transfer in water —T. A. Shakhverdov and E. N. Bodunov. **34**(6), 646–50 (Jun. 1973); CPM-7311E0208

Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

Relaxation of electron multipole moments and collisional depolarization of resonance fluorescence of an ensemble of atoms in the state with an inner quantum number j=2 —A. G. Petrashen, V. N. Rebane and T. K. Rebane. **35**(3), 240–4 (Sep. 1973); CPM-7312F1516

Dispersion interaction of hydrogen atoms in excited states —A. F. Shestakov, S. I. Vetchinkin and S. V. Khristenko. **35**(4), 355–7 (Oct. 1973); CPM-7402D0097

3.20.60.35. Rotational Energy Transfer

Calculation of Population Relaxation for Rotational Levels —L. A. Kolosovskaya. **34**(1), 101–2 (Jan. 1973); CPM-7308D0125

3.20.60.40. Vibrational Energy Transfer

Spectroscopic Study of Vibrational–Energy Scattering in I_2 Molecules Excited by a He–Ne Laser —E. D. Bugrim, S. N. Makrenko and I. L. Tsikora. **34**(1), 35–7 (Jan. 1973); CPM-7308D0059

Excitation temperature for active nitrogen —A. I. Lyutui and L. D. Melnikov. **34**(4), 385–6 (Apr. 1973); CPM-7310E0347

Determination of relaxation time for Co_2 bending vibration by spectrophone —P. V. Slobodskaya. **34**(4), 391–4 (Apr. 1973); CPM-7310E0353

3.20.60.45. Electronic Excitation and Ionization (Including Beam Foil Excitation)

Effect of Atomic Collisions on the Population Distribution of Helium Levels —E. N. Pavlovskaya and I. V. Podmoshenskii. **34**(1), 9–11 (Jan. 1973); CPM-7308D0033

Excitation of neon 2p–4d lines during collision of the second kind with helium atoms in the 2^1S_0 state —Yu. Z. Ionikh, N. P. Penkin and A. L. Kuranov. **34**(4), 471 (Apr. 1973); CPM-7310E0433

Interaction between excited atoms and molecule —F. I. Dalidchik and G. K. Ivanov. **34**(5), 498–500 (May 1973); CPM-7311E0060

Temperature dependence of the cross section for the destruction of metastable helium atoms by argon and xenon atoms —I. P. Bogdanova and V. D. Marusin. **34**(5), 593–5 (May 1973); CPM-7311E0155

Quenching collisions in helium observed during the decay of the n^1S_0 and n^3S_1 states —G. S. Kvater, O. V. Oginets, V. B. Smirnov and S. A. Bagaev. **35**(2), 226–7 (Aug. 1973); CPM-7312F0150

Excitation of He–Ne–H_2 mixture in a hollow–cathode discharge. III. —Yu. M. Kagan and A. S. Taroyan. **35**(3), 334–5 (Sep. 1973); CPM-7312F1610

Using a pulsed laser to determine the cross section of excitation–energy transfer by collision in a Cd–He mixture —A. S. Tibilov, M. K. Shevtsov and A. M. Shukhtin. **35**(4), 365–6 (Oct. 1973); CPM-7402D0107

Collisions of excited atoms under the sensitized fluorescence of Hg–Zn and Hg–Cd —E. N. Morozov and M. L. Sosinskii. **35**(5), 463–6 (Nov. 1973); CPM-7403D0003

Excitation cross sections of bands of the first negative system of nitrogen in electron–ion collisions —A. I. Dashchenko, I. P. Zapesochnyi and A. I. Imre. **35**(5), 562–3 (Nov. 1973); CPM-7403D0102

Measurement of electron–impact excitation cross sections for Kr–11 and Kr–111 lines —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(6), 600–2 (Dec. 1973); CPM-7404E0018

Electron–impact excitation of alkaline earth atoms. Part 2: Strontium singlets —V. P. Starodub, I. S. Alekssakhin, I. I. Garga and I. P. Zapesochnyi. **35**(6), 603–6 (Dec. 1973); CPM-7404E0021

3.20.60.60. Electron Scattering from Atoms; Excitation and Ionization by Electron Impact

Measurements of Cross Section for Excitation of Xenon Lines by Electron Impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **34**(1), 3–5 (Jan. 1973); CPM-7308D0027

Excitation of Neon in a Glow Discharge —A. N. Soldatov, G. S. Evtushenko and I. I. Muravev. **34**(1), 6–8 (Jan. 1973); CPM-7308D0030

Theory of Spectral Line Broadening by Electrons in a Nonequilibrium Plasma —E. A. Asmaryan and Yu. L. Klimontovich. **34**(1), 111–2 (Jan. 1973); CPM-7308D0135

Role of electron deexcitation in populating cadmium and zinc ionic levels —E. L. Latush, V. S. Mikhalevskii and M. F. Sem. **34**(2), 120–3 (Feb. 1973); CPM-7310E0082

Electronic excitation of some Kr and Xe lines in the vacuum ultraviolet —I. G. Zhukov, I. P. Zapesochnyi and P. V. Feltsan. **34** (4), 475–6 (Apr. 1973); CPM-7310E0437

Excitation of ^1S and ^1D autoionization states and resonance ionization of a helium atom by electron impact —S. S. Lipovetskii and V. S. Senashenko. **34**(6), 607–10 (Jun. 1973); CPM-7311E0169

Electron–impact excitation of alkaline earth atoms. I. magnesium —I. S. Aleksakhin, I. P. Zapesochnyi, I. I. Garga and V. P. Starodub. **34**(6), 611–5 (Jun. 1973); CPM-7311E0173

Generalized differential oscillator strengths of the helium atom near the $(2s2p)^1P^{(-)}$ autoionization state —V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **35**(1), 6–7 (Jul. 1973); CPM-7312F1764

Excitation of helium in a hollow–cathode discharge. Part 1 —Yu. M. Kagan and A. S. Taroyan. **35**(2), 120–3 (Aug. 1973); CPM-7312F0044

Excitation of Ar III by electron impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(2), 222–3 (Aug. 1973); CPM-7312F0146

Fine structure in excitation functions of cesium beyond the ionization threshold —E. N. Postoi, I. S. Aleksakhin and I. P. Zapesochnyi. **35**(2), 223–4 (Aug. 1973); CPM-7312F0147

Excitation of a He–Ne mixture in a hollow–cathode discharge. II — Yu. M. Kagan and A. S. Taroyan. **35**(3), 245–7 (Sep. 1973); CPM-7312F1521

Effective cross sections for excitation of spectral lines OI due to collisions of electrons with oxygen atoms and molecules —N. P. Penkin and O. D. Tsygir. **35**(3), 348–9 (Sep. 1973); CPM-7312F1624

3.20.60.70. Electron Scattering from Molecules; Excitation and Ionization by Electron Impact

Spectral distribution of ionization glow of air excited by relativistic electrons —V. D. Volovik, V. V. Petrenko, G. F. Popov and G. L. Fursov. **35**(3), 331–2 (Sep. 1973); CPM-7312F1607

Effective cross sections for excitation of spectral lines OI due to collisions of electrons with oxygen atoms and molecules —N. P. Penkin and O. D. Tsygir. **35**(3), 348–9 (Sep. 1973); CPM-7312F1624

3.20.60.80. Charge Transfer

Role of electron deexcitation in populating cadmium and zinc ionic levels —E. L. Latush, V. S. Mikhalevskii and M. F. Sem. **34**(2), 120–3 (Feb. 1973); CPM-7310E0082

Radiative charge exchange due to non symmetrical ion–atom collisions —A. A. Mikhailov. 34(5), 581–3 (May 1973); CPM-7311E0143

Virtual charge exchange as a mechanism of non–radiative transition between terms of rare–earth ions in scheelite and fergusonite type crystals —E. G. Reut and A. I. Ryskin. 35(5), 501–4 (Nov. 1973); CPM-7403D0041

3.20.60.90. Other Topics in Collision Processes

Depolarization of fluorescence of atoms due to collisions in the presence of hyperfine structure. III: Perturbation theory —V. N. Rebane and T. K. Rebane. 34(4), 378–81 (Apr. 1973); CPM-7310E0340

Collision broadening of the 1.53 μm line of mercury in an Hg–He, Hg–Ne mixture —K. A. Bikmikhametov, V. M. Klementev and V. P. Chebotaev. 34(6), 616–7 (Jun. 1973); CPM-7311E0178

Depolarization of an excited atom by collision with another atomic particle —E. L. Duman. 35(2), 113–7 (Aug. 1973); CPM-7312F0037

Intensity and half–width of CO_2 lines in the 14° 1–00° O band —V. A. Boldyrev and K. P. Vasilevskii. 35(5), 476–8 (Nov. 1973); CPM-7403D0016

3.30. MACROMOLECULES AND POLYMERS

3.30.20. Molecular Structure of Macromolecules and Polymers

Direct Determination of the Number of Triplet Excitons Arriving at the Surface of a Polymer. Heterogeneous Photosensitization —G. I. Lashkov, L. S. Shatseva and E. N. Bodunov. 34(1), 57–60 (Jan. 1973); CPM-7308D0081

Change in intensities of absorption bands under loading of polymer chains —V. A. Kosobukin. 34(2), 154–6 (Feb. 1973); CPM-7310E0116

Raman spectrum of polycarbonates excited by a laser —V. L. Furer and L. I. Maklakov. 34(2), 239–40 (Feb. 1973); CPM-7310E0201

The reflectance spectra of organic polymers in the 5–23.1 eV energy range —L. N. Vinokurova, Yu. A. Cherkasov and P. P. Kisilitsa. 34(4), 464–6 (Apr. 1973); CPM-7310E0426

3.30.30. Bulk Physical Properties

Induced optical activity of dye dimer–deoxyribonucleic acid complexes —V. I. Permogorov. 34(2), 168–71 (Feb. 1973); CPM-7310E0130

Induced absorption of polymethine dyes —A. M. Bonch–Bruevich, T. K. Razumova and G. M. Rubanova. 34(2), 172–5 (Feb. 1973); CPM-7310E0134

The reflectance spectra of organic polymers in the 5–23.1 eV energy range —L. N. Vinokurova, Yu. A. Cherkasov and P. P. Kisilitsa. 34(4), 464–6 (Apr. 1973); CPM-7310E0426

Quick–damping absorption in polymethine dyes induced by picosecond pulses of ruby–laser emission —A. N. Rubinov and I. M. Korda. 35(2), 221–2 (Aug. 1973); CPM-7312F0145

Studies on the character of broadening of the energy states of polymethine–dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and I. O. Starobogatov. 35(4), 374–6 (Oct. 1973); CPM-7402D0116

Calculation of the dichroism of iodine chains —V. N. Lebedeva. 35 (4), 394–6 (Oct. 1973); CPM-7402D0136

Spectral turbidimetry of concentrated disperse systems —V. I. Klenin, S. Yu. Shchegolev and L. G. Lebedeva. 35(6), 672–4 (Dec. 1973); CPM-7404E0090

3.30.90. Other Topics in Macromolecules and Polymers

Determination of the polarizations of electronic transitions by the dischroism method in molecules of low symmetry. I. Relationship between the orientation and structure of molecules introduced into an extenden polymer film —K. R. Popov. 35(6), 607–9 (Dec. 1973); CPM-7404E0025

3.40. PHYSICAL CHEMISTRY

3.40.10. Chemical Kinetics

Energy Transfer from Triplet States of Aromatic Ketones to Molecular Oxygen in Liquid Solutions —V. F. Morina and E. B. Sveshnikova. 34(3), 359–60 (Mar. 1973); CPM-7310E0321

Deactivation coefficients of the $O(^1D)$ and $O(^1S)$ metastable atoms in the glow discharge in oxygen —E. A. Koroleva and L. E. Khvorostovskaya. 35(1), 11–3 (Jul. 1973); CPM-7312F1769

3.40.20. Chemical Reactions

Calculation of the distribution over vibrational and rotational states in the reaction $A^- + A \rightarrow A_2 + e$ by means of the generalized Franck–Condon principle —Yu. N. Demkov and V. V. Kuchinskii. 35(5), 467–9 (Nov. 1973); CPM-7403D0007

3.40.25. Chemical Kinetics and Reactions: Special Methods and Regimes

Theory of a high–pressure infrared chemical laser —V. A. Kochelap and Yu. A. Kukibnyi. 34(2), 186–90 (Feb. 1973); CPM-7310E0148

3.40.30. Electrochemistry and Electrophoresis

Spectral dependences of the photoconductivity of anthracene single crystals with electrolytic injecting contacts —R. I. Kukhtin, A. B. Imenitov, B. T. Lozhkin and L. I. Boguslavskii. 35(5), 491–3 (Nov. 1973); CPM-7403D0031

3.40.35. Photochemistry and Radiation Chemistry

3.40.35.20. Quantum Yields

Use of Triplet–Triplet Energy Transfer for Determining Quantum Yield of Interconversion into a Triplet State —V. L. Pugachev and A. K. Chibisov. 34(3), 284–5 (Mar. 1973); CPM-7310E0246

Quenching of anthracene fluorescence by carbon tetrachloride —E. A. Andreeshchev, V. S. Viktorova, S. F. Kilin and I. M. Rozman. 34 (5), 530–2 (May 1973); CPM-7311E0092

Photoluminescence and phototransfer of an electron in acid aqueous solutions of Eu(II) —R. G. Bulgakov, V. P. Kazakov and V. N. Korobeinikova. 35(5), 497–500 (Nov. 1973); CPM-7403D0037

Spectral–luminescent properties of azomethines in the quinoid form. I. Anils 3–oxybenzofuran–2–aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. 35(6), 610–2 (Dec. 1973); CPM-7404E0028

3.40.35.30. Photodissociation, Photo–ionization, Fluorescence, Radiationless Transitions, and Intersystem Crossings

Special Features of ir Absorption and Fluorescence of Products of Benzophenone Photochemical Reactions —V. I. Melnik, G. A. Puchkovskaya, N. F. Kharchenko and M. P. Shpak. 34(1), 54–6 (Jan. 1973); CPM-7308D0078

Direct Determination of the Number of Triplet Excitons Arriving at the Surface of a Polymer. Heterogeneous Photosensitization —G. I. Lashkov, L. S. Shatseva and E. N. Bodunov. 34(1), 57–60 (Jan. 1973); CPM-7308D0081

Photochemical Method for Determining the Efficiency of the Conversion of Molecules into the Triplet State —O. M. Petsold, I. M. Byteva and G. P. Gurinovich. 34(3), 343–4 (Mar. 1973); CPM-7310E0305

Effective Excitation Cross Sections of Red System Bands of CN —V. I. Korol and S. M. Kishko. 34(3), 344 (Mar. 1973); CPM-7310E0306

Radioluminescence of Toluene Solid Solutions —I. A. Lisovskaya and M. V. Alfimov. 34(3), 353–4 (Mar. 1973); CPM-7310E0315

Energy Transfer from Triplet States of Aromatic Ketones to Molecular Oxygen in Liquid Solutions —V. F. Morina and E. B. Sveshnikova. 34(3), 359–60 (Mar. 1973); CPM-7310E0321

Polarization of electronic transitions in the disodium chlorin complex and its monoanion —V. G. Maslov. 34(5), 505–7 (May 1973); CPM-7311E0067

Quenching of anthracene fluorescence by carbon tetrachloride —E. A. Andreeshchev, V. S. Viktorova, S. F. Kilin and I. M. Rozman. **34** (5), 530–2 (May 1973); CPM-7311E0092

Observation of hyperfine splitting in iodine atoms by means of spontaneous emission in pulsed photolysis of CF_3I —V. Yu. Zelesskii, Yu. M. Ivanenko and T. I. Krupenikova. **34**(6), 618–9 (Jun. 1973); CPM-7311E0180

Photoionization processes in molecular iodine —M. E. Akopyan, F. I. Vilesov and Yu. L. Sergeev. **35**(5), 472–5 (Nov. 1973); CPM-7403D0012

Spectral evidence of matrix-isolated and collective centers in frozen n-paraffin solutions —L. A. Klimova, A. I. Ogloblina, G. N. Nersesova and V. I. Glyadkovskii. **35**(5), 488–90 (Nov. 1973); CPM-7403D0028

Virtual charge exchange as a mechanism of non-radiative transition between terms of rare-earth ions in scheelite and fergusonite type crystals —E. G. Reut and A. I. Ryskin. **35**(5), 501–4 (Nov. 1973); CPM-7403D0041

Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Singlet–doublet and triplet–doublet inductive-resonance energy transfer —I. A. Lisovskaya, V. G. Plotnikov and M. V. Alfimov. **35**(6), 634–5 (Dec. 1973); CPM-7404E0052

3.40.60. Surface Processes

3.40.60.45. Sorption and Accomodation Coefficients

Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Induced polarization of adsorbed molecules in an intensive light field —O. M. Artamonov and Yu. I. Asalkhanov. **35**(5), 518–9 (Nov. 1973); CPM-7403D0058

3.40.60.47. Other Gas Surface Interactions

Thermal relaxation of optically oriented atoms colliding with a surface —V. P. Putyrskii. **35**(6), 593–5 (Dec. 1973); CPM-7404E0011

Relaxation of optically oriented atoms in a nonuniform magnetic field —S. P. Dovgopol, V. P. Putyrskii and S. L. Votyakov. **35**(6), 596–9 (Dec. 1973); CPM-7404E0014

3.40.70. Disperse Systems

Path distribution of photons in low absorption powders —V. I. Dianov-Klokov and E. V. Fokeeva. **35**(3), 302–6 (Sep. 1973); CPM-7312F1578

Estimation of the boundaries of a size spectrum and selection of wavelengths for optical sounding of an atmospheric aerosol —I. E. Naats. **35**(5), 558–60 (Nov. 1973); CPM-7403D0098

Spectral turbidimetry of concentrated disperse systems —V. I. Klenin, S. Yu. Shchegolev and L. G. Lebedeva. **35**(6), 672–4 (Dec. 1973); CPM-7404E0090

4.20. STRUCTURE AND PROPERTIES OF FLUIDS

4.20.20. Specific Studies on Liquid and Liquid–Solution Structure

Internal Field in Nonpolar Liquids —O. G. Bokov. **34**(3), 274–6 (Mar. 1973); CPM-7310E0236

Effect of Electrostatic Interaction of Ions on Nonradiative Ion–to–Ion Energy Transfer. III. Liquid Solutions —E. N. Bodunov. **34**(3), 280–3 (Mar. 1973); CPM-7310E0242

Theory of optical properties of liquid metals —N. P. Kovalenko and Yu. P. Krasnyi. **35**(4), 397–9 (Oct. 1973); CPM-7402D0139

4.20.35. Thermodynamic Properties of Fluids

Approximate Calculation of Multiple Scattering in Cylindrical Cells —Yu. D. Kolpakov, V. S. Vitkalov and V. P. Skripov. **34**(3), 345–6 (Mar. 1973); CPM-7310E0307

Ratio of the fine-structure components in a Rayleigh line near the critical point —A. D. Alekhin and A. V. Chalyi. **34**(5), 552–4 (May 1973); CPM-7311E0114

Phase relations in light scattered by density fluctuations in pure liquids —A. N. Makhlin and G. V. Skrotskii. **34**(5), 575–6 (May 1973); CPM-7311E0137

Analysis of the scattering indicatrix near the critical point —E. L. Lakoza, N. L. Tsyganov and A. V. Chalyi. **35**(3), 299–301 (Sep. 1973); CPM-7312F1575

4.20.40. Transport Phenomena in Gases

Population balance of long-lived excited states in a gas discharge —A. E. Aizentson. **35**(1), 103–4 (Jul. 1973); CPM-7312F1861

4.20.50. Transport Phenomena in Liquids

Temperature dependence of luminescence spectra of viscous solutions —Yu. T. Mazurenko. **34**(5), 527–9 (May 1973); CPM-7311E0089

4.20.55. Electric Phenomena in Fluids

Internal field in a liquid and polarizabilities of interacting molecules. Limiting case of a strong external field —O. G. Bokov. **34**(4), 401–3 (Apr. 1973); CPM-7310E0363

4.20.60. Magnetic Phenomena in Fluids, Magnetic Resonances

Relaxation of optically oriented atoms in a nonuniform magnetic field —S. P. Dovgopol, V. P. Putyrskii and S. L. Votyakov. **35**(6), 596–9 (Dec. 1973); CPM-7404E0014

4.20.65. Optical Properties of Fluids

4.20.65.15. Optical Constants

Universal intermolecular interactions and temperature dependence of the refractive index of nonpolar liquids —O. G. Bokov. **34**(5), 577–9 (May 1973); CPM-7311E0139

Theory of optical properties of liquid metals —N. P. Kovalenko and Yu. P. Krasnyi. **35**(4), 397–9 (Oct. 1973); CPM-7402D0139

Anisotropy of the molar refraction of liquid crystalline p, p'-dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35**(5), 511–2 (Nov. 1973); CPM-7403D0051

4.20.65.20. Infrared and Raman Spectra

Vibrational spectra and conformation of phosphorus- and arsenic-containing heterocyclic compounds —A. B. Remizov, R. R. Shakhidullin, D. F. Fazliev and T. G. Mannafov. **34**(2), 142–3 (Feb. 1973); CPM-7310E0104

Identification of the $\nu P{=}O$ and $\nu C{-}O$ Bands in the Infrared Spectra of Complexes of Trimethylphosphine Oxide with Carboxylic Acids —G. V. Gusakova, E. V. Ryltsev and A. L. Smolyanskii. **34**(3), 262–4 (Mar. 1973); CPM-7310E0224

Effect of Fermi Resonance, Bethe and Davidov Splitting on the Fine Structure of Raman Scattering in Carbon Disulfide —I. I. Kondilenko, P. A. Korotkov and G. S. Litvinov. **34**(3), 265–7 (Mar. 1973); CPM-7310E0227

Structure of water vapor at 350 C and 158 bar pressure —G. V. Yukhnevich and A. A. Vetrov. **34**(4), 387–90 (Apr. 1973); CPM-7310E0349

Manifestation of weak intermolecular interactions in the vibrational spectra of solutions of polar substances in nonpolar solvents —A. V. Sechkarev and G. E. Trostentsova. **34**(4), 407–11 (Apr. 1973); CPM-7310E0369

High-speed recording of Raman spectra of liquids and gases —V. B. Podobedov, A. M. Pyndyk and Kh. E. Sterin. **34**(4), 478–9 (Apr. 1973); CPM-7310E0440

Infrared spectra and hydrogen bonds of hydroxyls of chlorosubstituted phenols. IV. effect of temperature on the spectra of liquid and solid phases —I. S. Perelygin and T. F. Akhunov. **34**(5), 512–3 (May 1973); CPM-7311E0074

Resonance broadening of the infrared absorption bands of molecules in liquids —A. I. Mardaeva, A. F. Bondarev and Yu. S. Rusetskii. **34**(6), 631–2 (Jun. 1973); CPM-7311E0193

Effect of the absorption of matter on Raman-line intensity measurements —S. P. Baranov and V. D. Prisyazhnyi. **34**(6), 633–4 (Jun. 1973); CPM-7311E0195

Two modifications of phosphorus tribromide —A. T. Kozulin, A. V. Gogolev, V. I. Karmanov and V. A. Murtsovkin. **34**(6), 708–9 (Jun. 1973); CPM-7311E0270

Infrared spectrum of TiI_4 in the 380–900 cm^{-1} range —V. A. Lapin and I. N. Godnev. **34**(6), 720 (Jun. 1973); CPM-7311E0282

Apparatus for the recording of Raman spectra of gases —A. M. Pyndyk and V. B. Podobedov. **35**(1), 31–2 (Jul. 1973); CPM-7312F1789

Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

Resonance Raman scattering by liquid solutions of molecular ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov and A. N. Sidorov. **35**(2), 154–7 (Aug. 1973); CPM-7312F0078

Influence of the effective light field on the Raman spectra of condensed media. II: A method of determining the correction for the observed Raman spectrum —V. M. Sidorenko, V. S. Libov and N. G. Bakhshiev. **35**(2), 158–61 (Aug. 1973); CPM-7312F0082

Infrared spectra of cryosystems. I. Linear molecules —V. V. Bertsev, M. O. Bulanin and T. D. Kolomiitsova. **35**(2), 162–4 (Aug. 1973); CPM-7312F0086

Splitting of the ν (C≡N) band of acetonitrile on intermolecular interaction with antimony trichloride in solution —Yu. P. Egorov, E. V. Ryltsev and I. F. Tsymbal. **35**(2), 165–6 (Aug. 1973); CPM-7312F0089

Change in the polarizability of a molecule and its derivative in the field of a solvent —S. K. Potapov and N. V. Bogachev. **35**(2), 214–6 (Aug. 1973); CPM-7312F0138

Spectra of hydrogen bonded complexes and ion pairs in the far infrared region (70–700 cm^{-1}). Pyridine–acid system —G. S. Denisov, Ya. Starosta and V. M. Shraiber. **35**(3), 262–4 (Sep. 1973); CPM-7312F1538

Raman spectrum of liquid glyoxal, $C_2O_2H_2$ —Le Khyu Kho and V. I. Tyulin. **35**(4), 445–7 (Oct. 1973); CPM-7402D0187

Absolute intensities of the lines in the Raman spectra of monohalogen-substituted benzenes in the liquid and gasesous states —G. A. Vorobeva and S. P. Timonin. **35**(6), 619–21 (Dec. 1973); CPM-7404E0037

Profiles of infrared absorption bands and rotational motion of molecules in liquids. Quantum rotation of hydrogen–chloride molecules —N. D. Orlova and L. A. Pozbnyakova. **35**(6), 624–6 (Dec. 1973); CPM-7404E0042

4.20.65.30. Rayleigh and Brillouin Scattering

Theory of Rayleigh Light Scattering —K. A. Valiev and E. N. Ivanov. **34**(1), 87–9 (Jan. 1973); CPM-7308D0111

Isotropic and Anisotropic Light Scattering in Relaxating Fluids —V. P. Romanov, V. A. Solovev and L. S. Filatova. **34**(3), 309–15 (Mar. 1973); CPM-7310E0271

Approximate Calculation of Multiple Scattering in Cylindrical Cells — Yu. D. Kolpakov, V. S. Vitkalov and V. P. Skripov. **34**(3), 345–6 (Mar. 1973); CPM-7310E0307

Ratio of the fine-structure components in a Rayleigh line near the critical point —A. D. Alekhin and A. V. Chalyi. **34**(5), 552–4 (May 1973); CPM-7311E0114

Phase relations in light scattered by density fluctuations in pure liquids —A. N. Makhlin and G. V. Skrotskii. **34**(5), 575–6 (May 1973); CPM-7311E0137

Distinctive features of the component structure of depolarized light scattered by quinoline —L. A. Zubkov and N. B. Rozhdestvenskaya. **34**(5), 587–8 (May 1973); CPM-7311E0149

Statistical theory of induced Mandelstam–Brillouin scattering —V. F. Boitsov and S. G. Slyusarev. **35**(1), 101–3 (Jul. 1973); CPM-7312F1859

Contribution to the theory of light scattering by diatomic molecules —E. N. Ivanov and K. A. Valiev. **35**(2), 169–71 (Aug. 1973); CPM-7312F0093

Analysis of the scattering indicatrix near the critical point —E. L. Lakoza, N. L. Tsyganov and A. V. Chalyi. **35**(3), 299–301 (Sep. 1973); CPM-7312F1575

4.20.65.40. Absorption Spectra in the Visible and Ultraviolet

Some Problems of the Spectroscopy of Organic Compounds —S. I. Kubarev and O. A. Ponomarev. **34**(1), 46–8 (Jan. 1973); CPM-7308D0070

Spectroscopic Properties of Glasslike Solutions with Molecular–Anion Admixture —M. U. Belyi, V. R. Kumeskii and I. Ya. Kushnirenko. **34**(1), 49–53 (Jan. 1973); CPM-7308D0073

Spectroscopic manifestations of ordering in the positions of phenanthrene molecules in solids solutions —E. G. Moisya, G. M. Semenovich and P. N. Logvinenko. **34**(2), 157–60 (Feb. 1973); CPM-7310E0119

Investigation of certain properties of substituted chalcones and their vinylogs in the electronically excited state —A. N. Nikitina, G. M. Fedyunina, B. Umirzakov, L. A. Yanovskaya and V. F. Kucherov. **34**(2), 163–5 (Feb. 1973); CPM-7310E0125

Induced absorption of polymethine dyes —A. M. Bonch-Bruevich, T. K. Razumova and G. M. Rubanova. **34**(2), 172–5 (Feb. 1973); CPM-7310E0134

Determination of oscillator strengths for transitions in HCl–Sn^{2+} solution —M. U. Belyi, I. V. Zakharchenko and B. A. Okhrimenko. **34**(5), 521–4 (May 1973); CPM-7311E0083

Absorption spectra of internally-complexed divalent copper compounds —E. A. Romodanova and A. E. Lutskii. **34**(5), 583–4 (May 1973); CPM-7311E0145

Intramolecular charge-transfer bands in the electronic–vibrational spectra of substituted benzenes —A. E. Lutskii. **34**(6), 624–6 (Jun. 1973); CPM-7311E0186

Relation between observed and true absorption spectra of molecules in a condensed medium. 7: One of the physical reasons for the failure of Beer's law in concentrated solutions —B. A. Mikhailov, V. M. Zolotarev and N. G. Bakhshiev. **34**(6), 627–30 (Jun. 1973); CPM-7311E0189

Triplet–triplet absorption and phosphorescence of metal–porphyrin complexes in liquid solutions —M. P. Tsvirko, V. V. Sapunov and K. N. Solovev. **34**(6), 635–8 (Jun. 1973); CPM-7311E0197

Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Relative positions of the lowest $\pi\pi^*$- and $n\pi^*$-levels and the photochromism of indoline spiropyrans in relation to the structure of their molecules —I. L. Belaits and T. D. Platonova. **35**(2), 127–30 (Aug. 1973); CPM-7312F0051

Experimental study of the phenomenon of vibronic coupling in intramolecular dimers for the strong bonding case —A. A. Ivanov, A. A. Puretskii and V. I. Permogorov. **35**(3), 265–8 (Sep. 1973); CPM-7312F1541

Studies on the character of broadening of the energy states of polymethine-dye solutions —A. M. Bonch-Bruevich, T. K. Razumova and I. O. Starobogatov. **35**(4), 374–6 (Oct. 1973); CPM-7402D0116

Induced absorption of polymethine dye solutions —A. M. Bonch-Bruevich, T. K. Razumova and G. M. Rubanova. **35**(5), 484–7 (Nov. 1973); CPM-7403D0024

4.20.65.50. Luminescence

Spectroscopic Properties of Glasslike Solutions with Molecular–Anion Admixture —M. U. Belyi, V. R. Kumeskii and I. Ya. Kushnirenko. **34**(1), 49–53 (Jan. 1973); CPM-7308D0073

Investigation of certain properties of substituted chalcones and their vinylogs in the electronically excited state —A. N. Nikitina, G. M. Fedyunina, B. Umirzakov, L. A. Yanovskaya and V. F. Kucherov. **34**(2), 163–5 (Feb. 1973); CPM-7310E0125

Determination of the oxygen quenching constant for the triplet state of rhodamine 6G using lasing characteristics —T. S. Smolskaya, A. N. Rubinov and M. M. Asimov. **34**(2), 231–3 (Feb. 1973); CPM-7310E0193

Effect of Electrostatic Interaction of Ions on Nonradiative Ion–to–Ion Energy Transfer. III. Liquid Solutions —E. N. Bodunov. **34**(3), 280–3 (Mar. 1973); CPM-7310E0242

Energy Transfer from Triplet States of Aromatic Ketones to Molecular Oxygen in Liquid Solutions —V. F. Morina and E. B. Sveshnikova. **34**(3), 359–60 (Mar. 1973); CPM-7310E0321

Temperature quenching of luminescence in tellurium–halide solutions —M. U. Belyi, I. Ya. Kushnirenko and A. B. Leontev. **34**(4), 412–5 (Apr. 1973); CPM-7310E0374

A spectral–luminescence study of phototransformations of anthraquinone in hexane —N. I. Litsov, L. A. Negievich and A. A. Kachan. **34**(4), 473–4 (Apr. 1973); CPM-7310E0435

Special features of low–temperature luminescence of diphenyl–polyene solutions under electric excitation —V. I. Steblin. **34**(4), 477–8 (Apr. 1973); CPM-7310E0439

Determination of oscillator strengths for transitions in $HCl–Sn^{2+}$ solution —M. U. Belyi, I. V. Zakharchenko and B. A. Okhrimenko. **34**(5), 521–4 (May 1973); CPM-7311E0083

Temperature dependence of luminescence spectra of viscous solutions —Yu. T. Mazurenko. **34**(5), 527–9 (May 1973); CPM-7311E0089

Quenching of anthracene fluorescence by carbon tetrachloride —E. A. Andreeshchev, V. S. Viktorova, S. F. Kilin and I. M. Rozman. **34**(5), 530–2 (May 1973); CPM-7311E0092

Quenching of luminescence in hydrogen–bonded complexes. Investigation of model systems aromatic hydrocarbons—salts of nitrogen heterocyclics —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(5), 584–5 (May 1973); CPM-7311E0146

Triplet–triplet absorption and phosphorescence of metal–porphyrin complexes in liquid solutions —M. P. Tsvirko, V. V. Sapunov and K. N. Solovev. **34**(6), 635–8 (Jun. 1973); CPM-7311E0197

Intramolecular nonradiative transitions in the condensed phase —V. G. Plotnikov and G. G. Konoplev. **34**(6), 639–42 (Jun. 1973); CPM-7311E0201

Effect of quenchers on fluorescence spectra of polar solutions of dyes —V. I. Tomin, A. N. Rubinov and V. F. Voronin. **34**(6), 643–5 (Jun. 1973); CPM-7311E0205

Nonradiative energy transfer from rare earth ions to dyes. III. Effect of ionic Coulomb interaction on dipole–dipole energy transfer in water —T. A. Shakhverdov and E. N. Bodunov. **34**(6), 646–50 (Jun. 1973); CPM-7311E0208

Mechanism of the effect of aliphatic amines on the fluorescence of 2–naphthol —A. A. Krasheninnikov and A. V. Shablya. **34**(6), 705–6 (Jun. 1973); CPM-7311E0267

Effect of temperature on the luminescence quenching constant in hydrogen bonded complexes —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(6), 718–9 (Jun. 1973); CPM-7311E0280

Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Polarization of luminescence of complex molecules under quenching by light —Yu. T. Mazurenko. **35**(2), 137–9 (Aug. 1973); CPM-7312F0061

Intensity distribution in electronic–vibrational progressions of the 9,10–anthraquinone luminescence spectrum —N. S. Smirnov, E. A. Gastilovich and D. N. Shigorin. **35**(2), 140–2 (Aug. 1973); CPM-7312F0064

Nonradiative deactivation of Cr^{3+} and Co^{3+} ions in frozen solutions —E. B. Sveshnikov and I. B. Neporent. **35**(3), 283–5 (Sep. 1973); CPM-7312F1559

Breakdown of a complex spectral contour into individual symmetric bands —V. I. Mikhailenko and V. I. Kucherenko. **35**(4), 370–3 (Oct. 1973); CPM-7402D0112

Anomalous temperature dependence of the luminescence decay time of rare–earth ions —V. L. Ermolaev and V. S. Tachin. **35**(5), 566–7 (Nov. 1973); CPM-7403D0106

4.20.65.70. Optical Activity

Induced Circular Birefringence in Rubidium Vapor —A. M. Bonch–Bruevich, V. A. Khodovoi and V. V. Khromov. **34**(1), 109–10 (Jan. 1973); CPM-7308D0133

The fluorine anomaly in a series of optically active α–haloketones —B. S. Kataev and M. P. Kruchek. **34**(2), 166–7 (Feb. 1973); CPM-7310E0128

Induced optical activity of dye dimer–deoxyribonucleic acid complexes —V. I. Permogorov. **34**(2), 168–71 (Feb. 1973); CPM-7310E0130

Kirkwood Formulation of the Theory of the Optical Activity of Oriented Molecules —M. P. Kruchek. **34**(3), 340–1 (Mar. 1973); CPM-7310E0302

4.20.70. Properties of Supercooled Fluids and Glasses

Characteristics of energy transfer between rare earth ions in sodium borosilicate glasses during microlayering —G. V. Obraztsov, A. L. Reishakhrit and M. N. Tolstoi. **34**(4), 463–4 (Apr. 1973); CPM-7310E0425

Anisotropy of the molar refraction of liquid crystalline p, p'–dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35**(5), 511–2 (Nov. 1973); CPM-7403D0051

4.20.75. Properties of Liquid and Plastic Crystals

Anisotropy of the molar refraction of liquid crystalline p, p'–dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35**(5), 511–2 (Nov. 1973); CPM-7403D0051

4.20.85. Instruments and Devices Using, Controlling or Studying Fluids

Apparatus for the recording of Raman spectra of gases —A. M. Pyndyk and V. B. Podobedov. **35**(1), 31–2 (Jul. 1973); CPM-7312F1789

4.30. PLASMA PHYSICS

4.30.10. Elementary Processes in Plasmas

Excitation of Neon in a Glow Discharge —A. N. Soldatov, G. S. Evtushenko and I. I. Muravev. **34**(1), 6–8 (Jan. 1973); CPM-7308D0030

Theory of Spectral Line Broadening by Electrons in a Nonequilibrium Plasma —E. A. Asmaryan and Yu. L. Klimontovich. **34**(1), 111–2 (Jan. 1973); CPM-7308D0135

Investigation of the early stage of decay of argon plasma —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(2), 124–6 (Feb. 1973); CPM-7310E0086

Mechanism of recombination in helium —N. V. Afanasev, G. N. Gerasimov and G. P. Startseva. **34**(4), 382–4 (Apr. 1973); CPM-7310E0344

Observation of satellites to the resonance transitions of H– and He–like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

4.30.20. Basic Properties of Plasmas

Recombination Emission of an Argon Plasma above the Cutoff Frequency —V. Ya. Aleksandrov, D. B. Gurevich and I. V. Podmoshenskii. **34**(1), 12–3 (Jan. 1973); CPM-7308D0036

Experimental Investigation of the Relaxation of Excited States in a Decaying Alkali Plasma —D. Ya. Dudko, Yu. P. Korchevoi and V. I. Lukashenko. **34**(1), 17–20 (Jan. 1973); CPM-7308D0041

Investigation of the early stage of decay of argon plasma —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(2), 124–6 (Feb. 1973); CPM-7310E0086

Emission of a continuous spectrum of electron deceleration by atoms in the positive column of argon discharge —Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **34**(2), 127–8 (Feb. 1973); CPM-7310E0089

De–excitation and population of cesium levels during the decay of a cesium–helium discharge plasma. II —N. D. Morgulis and A. I. Kravchenko. **34**(4), 374–7 (Apr. 1973); CPM-7310E0336

Mechanism of recombination in helium —N. V. Afanasev, G. N. Gerasimov and G. P. Startseva. **34**(4), 382–4 (Apr. 1973); CPM-7310E0344

Spectrum of two–photon light scattering by plasma electrons —V. A. Zhuravlev and G. D. Petrov. **34**(5), 586–7 (May 1973); CPM-7311E0148

Alignment of excited helium atoms in a direct–current discharge —S. A. Kazantsev, A. Kisling and M. P. Chaika. **34**(6), 714–5 (Jun. 1973); CPM-7311E0276

Atomic temperatures and broadening of spectral lines in the positive column of an argon discharge —Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **35**(1), 8–10 (Jul. 1973); CPM-7312F1766

Deactivation coefficients of the $O(^1D)$ and $O(^1S)$ metastable atoms in the glow discharge in oxygen —E. A. Koroleva and L. E. Khvorostovskaya. **35**(1), 11–3 (Jul. 1973); CPM-7312F1769

Excitation of helium in a hollow-cathode discharge. Part 1 —Yu. M. Kagan and A. S. Taroyan. **35**(2), 120–3 (Aug. 1973); CPM-7312F0044

Excitation of a He–Ne mixture in a hollow-cathode discharge. II — Yu. M. Kagan and A. S. Taroyan. **35**(3), 245–7 (Sep. 1973); CPM-7312F1521

Intensities of ionic and atomic lines in a hollow cathode —Yu. M. Kagan, R. I. Lyagushchenko and S. N. Khvorostovskii. **35**(3), 248–50 (Sep. 1973); CPM-7312F1524

Spectral distribution of ionization glow of air excited by relativistic electrons —V. D. Volovik, V. V. Petrenko, G. F. Popov and G. L. Fursov. **35**(3), 331–2 (Sep. 1973); CPM-7312F1607

Excitation of He–Ne–H_2 mixture in a hollow-cathode discharge. III. —Yu. M. Kagan and A. S. Taroyan. **35**(3), 334–5 (Sep. 1973); CPM-7312F1610

Effective cross sections for excitation of spectral lines OI due to collisions of electrons with oxygen atoms and molecules —N. P. Penkin and O. D. Tsygir. **35**(3), 348–9 (Sep. 1973); CPM-7312F1624

Determination of electron concentration and temperature using absolute intensities of spectral lines in a nonequilibrium plasma — V. S. Vorobev and M. B. Zheleznyak. **35**(4), 361–4 (Oct. 1973); CPM-7402D0103

Effect of hydrogen on the line luminescence of alkali metals and inert gases in a pulsed discharge —V. G. Mishakov, P. A. Pogorelyi and A. M. Shukhtin. **35**(4), 455–6 (Oct. 1973); CPM-7402D0197

4.30.70. Gas Discharges

4.30.70.20. Glow and Corona

Excitation of Neon in a Glow Discharge —A. N. Soldatov, G. S. Evtushenko and I. I. Muravev. **34**(1), 6–8 (Jan. 1973); CPM-7308D0030

Investigation of the Early Stage of Argon Plasma Decay, Part 1 —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(1), 14–6 (Jan. 1973); CPM-7308D0038

Experimental Investigation of the Relaxation of Excited States in a Decaying Alkali Plasma —D. Ya. Dudko, Yu. P. Korchevoi and V. I. Lukashenko. **34**(1), 17–20 (Jan. 1973); CPM-7308D0041

Role of electron deexcitation in populating cadmium and zinc ionic levels —E. L. Latush, V. S. Mikhalevskii and M. F. Sem. **34**(2), 120–3 (Feb. 1973); CPM-7310E0082

Emission of a continuous spectrum of electron deceleration by atoms in the positive column of argon discharge —Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **34**(2), 127–8 (Feb. 1973); CPM-7310E0089

Excitation of the $B^3\Pi_g$ State of Molecular Nitrogen in a Glow Discharge —O. V. Ravodina, T. N. Popova, A. A. Eliseev and S. S. Smolyakov. **34**(3), 243–5 (Mar. 1973); CPM-7310E0205

Atomic temperatures and broadening of spectral lines in the positive column of an argon discharge —Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **35**(1), 8–10 (Jul. 1973); CPM-7312F1766

Deactivation coefficients of the $O(^1D)$ and $O(^1S)$ metastable atoms in the glow discharge in oxygen —E. A. Koroleva and L. E. Khvorostovskaya. **35**(1), 11–3 (Jul. 1973); CPM-7312F1769

Diagnostics of a discharge in neon at moderate pressures using the bremsstrahlung continuum —Yu. B. Golubovskii, V. A. Ivanov and Yu. M. Kagan. **35**(2), 124–6 (Aug. 1973); CPM-7312F0048

Spectral distribution of ionization glow of air excited by relativistic electrons —V. D. Volovik, V. V. Petrenko, G. F. Popov and G. L. Fursov. **35**(3), 331–2 (Sep. 1973); CPM-7312F1607

4.30.70.30. Arcs and Sparks

Recombination Emission of an Argon Plasma above the Cutoff Frequency —V. Ya. Aleksandrov, D. B. Gurevich and I. V. Podmoshenskii. **34**(1), 12–3 (Jan. 1973); CPM-7308D0036

Diagnostics of a nonequilibrium Cd–He arc plasma —V. Ya. Aleksandrov, N. S. Gruzdeva, D. B. Gurevich and I. V. Podmoshenskii. **34**(5), 494–7 (May 1973); CPM-7311E0056

4.30.80. Plasma Diagnostics

Investigation of the Early Stage of Argon Plasma Decay, Part 1 —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(1), 14–6 (Jan. 1973); CPM-7308D0038

Determination of the temperature of a relativistic plasma from the scattered-light indicatrix —V. A. Zhuravlev and G. D. Petrov. **34** (4), 456 (Apr. 1973); CPM-7310E0418

Diagnostics of a nonequilibrium Cd–He arc plasma —V. Ya. Aleksandrov, N. S. Gruzdeva, D. B. Gurevich and I. V. Podmoshenskii. **34**(5), 494–7 (May 1973); CPM-7311E0056

Diagnostics of a discharge in neon at moderate pressures using the bremsstrahlung continuum —Yu. B. Golubovskii, V. A. Ivanov and Yu. M. Kagan. **35**(2), 124–6 (Aug. 1973); CPM-7312F0048

Determination of electron concentration and temperature using absolute intensities of spectral lines in a nonequilibrium plasma — V. S. Vorobev and M. B. Zheleznyak. **35**(4), 361–4 (Oct. 1973); CPM-7402D0103

Role of optically transparent walls in the interferometric method of studying a plasma —A. A. Bakeev, T. P. Narozhnaya and R. E. Rovinskii. **35**(4), 460 (Oct. 1973); CPM-7402D0202

Use of nonself-reversed line profiles for plasma diagnostics in the burner of a metal-haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

5.10. CRYSTALLOGRAPHY AND STRUCTURAL CONFIGURATION OF SOLIDS

5.10.20. Structural Symmetries and Crystal Morphology

Properties of surface- and bulk-exciton spectra of an anthracene crystal for various orientations of the wave vector —M. S. Brodin, M. A. Dudinskii and S. V. Marisova. **34**(6), 651–4 (Jun. 1973); CPM-7311E0213

Symmetry in the Raman scattering of light by cubic crystals with localized centers —A. A. Kaplyanskii and V. K. Negodyiko. **35**(3), 269–73 (Sep. 1973); CPM-7312F1545

5.10.30. Crystal Defects

5.10.30.30. Annealing

Thermal Coagulation of F Centers in KCl Crystals Doped with Alkali Metals —V. V. Golubtsov and A. B. Goldenberg. **34**(3), 291–3 (Mar. 1973); CPM-7310E0253

5.10.30.50. Color Centers

Thermal Coagulation of F Centers in KCl Crystals Doped with Alkali Metals —V. V. Golubtsov and A. B. Goldenberg. **34**(3), 291–3 (Mar. 1973); CPM-7310E0253

Color Centers and Recombination Luminescence in KI–Ag Crystals — E. E. Penzina, I. A. Parfianovich and B. D. Lobanov. **34**(3), 294–7 (Mar. 1973); CPM-7310E0256

Effect of x-rays on NaF–Eu^{3+} single crystals —G. D. Potapenko and V. F. Pisarenko. **34**(4), 461–2 (Apr. 1973); CPM-7310E0423

Distribution of short-lived color centers over a section of laser neodymium-glass rod —L. B. Glebov and M. N. Tolstoi. **34**(5), 572–3 (May 1973); CPM-7311E0134

Sodium color centers in potassium bromide crystals —V. P. Avdonin, A. F. Nechaev and B. T. Plachenov. **35**(4), 379–81 (Oct. 1973); CPM-7402D0121

Quadratic pseudo-Stark splitting of a phononless line of N_1 color centers in lithium fluoride —A. A. Kaplyanskii, V. N. Medvedev and A. P. Skvortsov. **35**(4), 382–4 (Oct. 1973); CPM-7402D0124

5.10.90. Other Topics in Crystallography

Luminescence Centers in KBr–TlBr Single Crystals with TlBr Concentrations up to 20 mol.% —R. I. Gindina, A. A. Elango, A. A. Khaav, A. A. Maaroos and A. A. Tsirk. **34**(1), 63–6 (Jan. 1973); CPM-7308D0087

Quadrupole Relaxation and the Hydrogen Bond in Crystalline Chloroform and Its Complexes —I. A. Kyuntsel and Yu. I. Rozenberg. **34**(3), 341–2 (Mar. 1973); CPM-7310E0303

5.15. LATTICE DYNAMICS

Applicability of the Method of Progressive Rigidity to the Calculation of the Force Fields of Anionic Complexes —Phan Dinh Kien. **34** (3), 257–9 (Mar. 1973); CPM-7310E0219

Raman Spectra of Lattice Vibrations in Symmetric 1,2,3 Trihalogenobenzene —A. I. Rubailo, V. F. Shabanov and V. E. Volkov. **34**(3), 268–70 (Mar. 1973); CPM-7310E0230

Interpretation and calculation of optical vibrations in the trigonal modification of germanium dioxide crystals —A. P. Mirgorodskii. **34**(6), 667–8 (Jun. 1973); CPM-7311E0229

Luminescence of chromium–ion pairs in ruby in the region of antistokes phonon satellites of the R–lines —L. P. Nikitin, A. Ya. Ryskin and Z. M. Khashkhozhev. **35**(4), 454–5 (Oct. 1973); CPM-7402D0196

Temperature dependence of the ir absorption bands of crystals containing complex ions —E. K. Galanov. **35**(6), 654–6 (Dec. 1973); CPM-7404E0072

5.20. ENERGY STATES IN SOLIDS

5.20.10. General Band–Theory Models and Computational Techniques

Method of Calculating the Energy of Optical Transitions from the Valence Band to the Conduction Band in the Framework of a Simplified Model of a Condensed Medium —S. A. Kutolin and R. N. Samoilova. **34**(1), 67–8 (Jan. 1973); CPM-7308D0091

5.20.20. Energy Band Structure and Fermi Surfaces of Specific Types of Materials

5.20.20.15. Metals and Semimetals

Separation of the Contributions of Free and Bound Electrons to the Real and Imaginary Parts of the Dielectric Constant of Gold —I. N. Shklyarevskii and P. L. Pakhomov. **34**(1), 90–1 (Jan. 1973); CPM-7308D0114

Optical Properties of Palladium —Zh. Duisebaeva, M. I. Korsunskii and G. P. Motulevich. **34**(3), 307–8 (Mar. 1973); CPM-7310E0269

Plasma resonance in granular silver and gold films —I. N. Shklyarevskii, P. L. Pakhomov and T. I. Korneeva. **34**(4), 421–4 (Apr. 1973); CPM-7310E0383

5.20.20.20. Alloys

Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

Optical properties of nickel–chromium alloys in the 250 to 1100 nm spectral region —N. Ya. Gorban, V. S. Stashchuk, P. V. Petrenko and A. A. Shishlovskii. **35**(4), 400–2 (Oct. 1973); CPM-7402D0142

5.20.25. Localized Electron States and Other Electronic Theories or Models

Theoretical and experimental study of localized levels in KCl–Eu^{2+} — I. A. Parfianovich, V. M. Metsik, V. N. Salomatov and E. I. Shuraleva. **35**(5), 509–10 (Nov. 1973); CPM-7403D0049

5.20.30. Impurity and Defect Levels and Positron States

5.20.30.40. Ionic Crystals

Temperature shift of the energy levels of the Nd^{3+} ion in yttrium–aluminum–garnet single crystals —E. M. Ostrovskaya, S. A. Sazonova and B. S. Skorobogatov. **34**(2), 178–80 (Feb. 1973); CPM-7310E0140

Optical absorption spectra of excited Cr^{3+} ions in magnesium spinel at room and liquid nitrogen temperatures —D. T. Sviridov, B. K. Sevastyanov, V. P. Orekhova, R. K. Sviridova and T. F. Veremeichik. **35**(1), 59–61 (Jul. 1973); CPM-7312F1817

Calculation of the states of a Ce^{3+} ion in fluorite–type crystals —N. V. Starostin, P. F. Gruzdev, V. A. Ganin and T. E. Chebotareva. **35**(3), 277–80 (Sep. 1973); CPM-7312F1553

Use of molecular–orbital method for the calculation of impurity electronic levels in ionic crystals. 1. Molecular model for the KCl (Tl) center —A. N. Ermoshkin and R. A. Evarestov. **35**(4), 456–8 (Oct. 1973); CPM-7402D0198

Theoretical and experimental study of localized levels in KCl–Eu^{2+} — I. A. Parfianovich, V. M. Metsik, V. N. Salomatov and E. I. Shuraleva. **35**(5), 509–10 (Nov. 1973); CPM-7403D0049

5.20.30.90. Other Topics in Impurity and Defect Levels

Energy spectrum of Dy^{3+} ion in single crystals of the $KY(MoO_4)_2$–$KDy(MoO_4)_2$ system —T. S. Stetsenko, A. M. Pshisukha, S. D. Elchaninova and A. I. Zvyagin. **34**(2), 227–8 (Feb. 1973); CPM-7310E0189

Effect of temperature and excitation intensity on the edge emission of βSiC(Al,N) crystals —Nguen Ngok Long and D. S. Nedzvetskii. **35**(6), 645–7 (Dec. 1973); CPM-7404E0063

5.20.40. Level Splitting and Interactions in Crystals

5.20.40.15. Crystal and Ligand Fields

Effect of Fermi Resonance, Bethe and Davidov Splitting on the Fine Structure of Raman Scattering in Carbon Disulfide —I. I. Kondilenko, P. A. Korotkov and G. S. Litvinov. **34**(3), 265–7 (Mar. 1973); CPM-7310E0227

Optical Absorption and Luminescence Spectra of Zinc– and Cadmium–Tungstate Single Crystals Activated with Chromium (Cr^{3+}) —A. E. Nosenko and D. L. L. Futorskii. **34**(3), 286–7 (Mar. 1973); CPM-7310E0248

Some features of the appearance of Davydov splitting in Raman spectra —L. N. Ovander. **35**(1), 54–5 (Jul. 1973); CPM-7312F1812

Calculation of the states of a Ce^{3+} ion in fluorite–type crystals —N. V. Starostin, P. F. Gruzdev, V. A. Ganin and T. E. Chebotareva. **35**(3), 277–80 (Sep. 1973); CPM-7312F1553

Comparative study of optical activity in α–$NiSO_4.6H_2O$ and α–$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Calculation of optical absorption spectra for paramagnetic ions —N. G. Vanyushina, V. V. Ilyushchenko, A. N. Men and Yu. N. Rezchikov. **35**(6), 638–40 (Dec. 1973); CPM-7404E0056

5.20.40.90. Other Topics in Level Splitting

Quadratic pseudo–Stark splitting of a phononless line of N_1 color centers in lithium fluoride —A. A. Kaplyanskii, V. N. Medvedev and A. P. Skvortsov. **35**(4), 382–4 (Oct. 1973); CPM-7402D0124

Features of exciton absorption in molecular crystals when Fermi resonance is present —M. P. Lisitsa, A. M. Yaremko and N. E. Ralko. **35**(6), 641–4 (Dec. 1973); CPM-7404E0059

5.20.50. Quasiparticles and Complex Centers

5.20.50.10. Excitons

Direct Determination of the Number of Triplet Excitons Arriving at the Surface of a Polymer. Heterogeneous Photosensitization —G. I. Lashkov, L. S. Shatseva and E. N. Bodunov. **34**(1), 57–60 (Jan. 1973); CPM-7308D0081

Anomalous exciton splitting in the vibrational spectrum of a naphthalene crystal in the 3000 cm^{-1} region —V. L. Broude and A. A. Shirokov. **34**(2), 230–1 (Feb. 1973); CPM-7310E0192

Investigation of the Optical Constants of $PbCl_2$ and $PbBr_2$ at 78 K in the Energy Range 3.5–11.0 eV —A. F. Malysheva and V. G. Plekhanov. **34**(3), 302–4 (Mar. 1973); CPM-7310E0264

Properties of surface– and bulk–exciton spectra of an anthracene crystal for various orientations of the wave vector —M. S. Brodin, M. A. Dudinskii and S. V. Marisova. **34**(6), 651–4 (Jun. 1973); CPM-7311E0213

Localized biexcitons in molecular crystals —A. I. Onipko and V. I. Sugakov. **34**(6), 655–8 (Jun. 1973); CPM-7311E0217

Interaction of excitons and exciton annihilation —A. I. Onipko and V. I. Sugakov. **35**(1), 108–9 (Jul. 1973); CPM-7312F1866

Spin exchange between triplet excitons —E. L. Rumyantsev and K. M. Salikhov. **35**(3), 332–4 (Sep. 1973); CPM-7312F1608

Luminescence and the energy transfer of singlet excitation in solid styrene monomer —Yu. N. Demikhov, A. N. Faidysh and V. N. Yashchuk. **35**(4), 377–8 (Oct. 1973); CPM-7402D0119

Features of exciton absorption in molecular crystals when Fermi resonance is present —M. P. Lisitsa, A. M. Yaremko and N. E. Ralko. **35**(6), 641–4 (Dec. 1973); CPM-7404E0059

Vibronic structure of absorption spectra of molecular crystals —A. A. Delyukov and G. V. Klimusheva. **35**(6), 648–50 (Dec. 1973); CPM-7404E0066

5.20.50.20. Polarons

Polaron superradiation —V. V. Samartsev and Z. M. Kaveeva. **35**(5), 560–1 (Nov. 1973); CPM-7403D0100

5.20.80. Electronic Surface States and Energy Band Structure

Induced polarization of adsorbed molecules in an intensive light field —O. M. Artamonov and Yu. I. Asalkhanov. **35**(5), 518–9 (Nov. 1973); CPM-7403D0058

5.20.90. Other Topics in Energy States in Solids

Temperature dependence of nonradiative electron transitions in the solid phase —A. A. Kovalev and B. I. Makshantsev. **35**(5), 494–6 (Nov. 1973); CPM-7403D0034

5.30. THERMAL AND THERMODYNAMIC PHENOMENA

5.30.40. Phase Properties of Systems

5.30.40.20. Critical–Point Phenomena

Investigation of the refractive indices of quartz in the α–β transition region —V. K. Semenchenko and I. T. Bodnar. **35**(1), 56–8 (Jul. 1973); CPM-7312F1814

5.30.40.30. Structural Transformation (e.g. Polymorphic, Martensitic, etc.)

Relationship between fluorescence spectra of impurity molecules and phase transitions in crystalline cyclopentane —L. P. Gladkikh and L. A. Klimova. **34**(2), 161–2 (Feb. 1973); CPM-7310E0123

Diffuse phase transition in crystalline phenanthrene according to ir absorption spectra —G. N. Zhizhin and N. I. Bagdanskis. **34**(6), 669–70 (Jun. 1973); CPM-7311E0231

Investigation of the refractive indices of quartz in the α–β transition region —V. K. Semenchenko and I. T. Bodnar. **35**(1), 56–8 (Jul. 1973); CPM-7312F1814

An optical study of the characteristics of the α, β transition in Al–doped quartz —V. K. Semenchenko and I. T. Bodnar. **35**(3), 335–6 (Sep. 1973); CPM-7312F1611

5.50. MAGNETIC PROPERTIES OF SOLIDS

Energy spectra of the layered antiferromagnets Li_2NiF_4, K_2NiF_4 and Rb_2NiF_4 —R. V. Pisarev, A. A. Karamyan, N. N. Nesterova and P. P. Syrnikov. **35**(1), 88–9 (Jul. 1973); CPM-7312F1846

5.55. MAGNETIC RESONANCE AND RELAXATION

5.55.20. Paramagnetic Resonances (e.g. EPR, ESR) and Relaxation

Energy spectrum of Dy^{3+} ion in single crystals of the $KY(MoO_4)_2$–$KDy(MoO_4)_2$ system —T. S. Stetsenko, A. M. Pshisukha, S. D. Elchaninova and A. I. Zvyagin. **34**(2), 227–8 (Feb. 1973); CPM-7310E0189

Spin exchange between triplet excitons —E. L. Rumyantsev and K. M. Salikhov. **35**(3), 332–4 (Sep. 1973); CPM-7312F1608

5.55.50. Nuclear Resonances (NMR) and Relaxation

Quadrupole Relaxation and the Hydrogen Bond in Crystalline Chloroform and Its Complexes —I. A. Kyuntsel and Yu. I. Rozenberg. **34**(3), 341–2 (Mar. 1973); CPM-7310E0303

The possibility of comparing NMR experiments with the data of optical and neutron spectroscopy —R. M. Yulmetev. **35**(3), 342–3 (Sep. 1973); CPM-7312F1618

5.60. OPTICAL PROPERTIES OF SOLIDS

5.60.20. Optical Constants of Materials and Optical Parameters

5.60.20.20. Optical Constants of Metals and Semimetals

Separation of the Contributions of Free and Bound Electrons to the Real and Imaginary Parts of the Dielectric Constant of Gold —I. N. Shklyarevskii and P. L. Pakhomov. **34**(1), 90–1 (Jan. 1973); CPM-7308D0114

Optical Properties of Palladium —Zh. Duisebaeva, M. I. Korsunskii and G. P. Motulevich. **34**(3), 307–8 (Mar. 1973); CPM-7310E0269

Plasma resonance in granular silver and gold films —I. N. Shklyarevskii, P. L. Pakhomov and T. I. Korneeva. **34**(4), 421–4 (Apr. 1973); CPM-7310E0383

Optical properties of bismuth thin films —A. I. Usoskin, I. N. Shklyarevskii, A. S. Gerchikov and Yu. S. Verlinskii. **34**(5), 549–51 (May 1973); CPM-7311E0111

Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

Optical properties of nickel–chromium alloys in the 250 to 1100 nm spectral region —N. Ya. Gorban, V. S. Stashchuk, P. V. Petrenko and A. A. Shishlovskii. **35**(4), 400–2 (Oct. 1973); CPM-7402D0142

5.60.20.30. Optical Constants of Insulators

Investigation of the Optical Constants of $PbCl_2$ and $PbBr_2$ at 78 K in the Energy Range 3.5–11.0 eV —A. F. Malysheva and V. G. Plekhanov. **34**(3), 302–4 (Mar. 1973); CPM-7310E0264

Investigation of the refractive indices of quartz in the α–β transition region —V. K. Semenchenko and I. T. Bodnar. **35**(1), 56–8 (Jul. 1973); CPM-7312F1814

Optical properties of SiO_2 in the spectral region 5–40 eV —O. M. Sorokin, V. A. Blank and G. A. Lebedeva. **35**(3), 291–4 (Sep. 1973); CPM-7312F1567

An optical study of the characteristics of the α, β transition in Al–doped quartz —V. K. Semenchenko and I. T. Bodnar. **35**(3), 335–6 (Sep. 1973); CPM-7312F1611

Comparative study of optical activity in α–$NiSO_4.6H_2O$ and α–$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Optical constants of Fe_2O_3 in the infrared range of the spectrum —S. I. Popova, T. S. Tolstykh and L. S. Ivlev. **35**(5), 551 (Nov. 1973); CPM-7403D0091

5.60.20.40. Optical Constants of Semiconductors

Optical constants of GeO_2 oxides in the 4000–200 cm^{-1} region —V. M. Zolotarev and V. N. Morozov. **34**(2), 181–2 (Feb. 1973); CPM-7310E0143

Determination of the Optical Density of Semiconductor Layers on Transparent Substrates —M. W. Kurik and A. Kh. Rozhko. **34**(3), 305–6 (Mar. 1973); CPM-7310E0267

5.60.35. Electro–Optical Properties and Effects

Relaxation nature of the electrooptical effect in lead–magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, Z. V. Nesterova and Yu. V. Popov. **34**(2), 228–9 (Feb. 1973); CPM-7310E0190

Anisotropy of a nonlinear refractive index in acentric crystals: linear electrooptic effect —Yu. V. Shaldin and D. A. Belogurov. **35**(4), 403–7 (Oct. 1973); CPM-7402D0145

Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

5.60.40. Magneto–Optical Properties and Effects

Faraday effect in cubic ferrimagnets with magnetic birefringence —F. V. Lisovskii. **34**(5), 545–8 (May 1973); CPM-7311E0107

Spin memory of Eu^{2+} in CaF_2 —A. V. Komarov and S. M. Ryabchenko. **35**(1), 100–1 (Jul. 1973); CPM-7312F1858

Natural and artificial phenomena of pseudocrossing of dispersion curves by the Rozhdestvenskii hook method —A. Kh. Zilbershtein and L. E. Solovyov. **35**(3), 274–6 (Sep. 1973); CPM-7312F1550

Magnetooptical study of Eu^{2+} in CaF_2 —A. V. Komarov and S. M. Ryabchenko. **35**(4), 388–90 (Oct. 1973); CPM-7402D0130

Optical and magnetooptical properties of iron borate in the visible and near ultraviolet spectral regions —I. S. Edelman and A. V. Malakhovskii. **35**(5), 554–5 (Nov. 1973); CPM-7403D0094

Effect of size quantization on the Faraday effect in an electron gas —A. E. Glauberman and B. N. Khlopkov. **35**(5), 564–5 (Nov. 1973); CPM-7403D0104

5.60.45. Infrared and Raman Spectra and Scattering in Solids

5.60.45.10. General Theory and Measurement Techniques

Some features of the appearance of Davydov splitting in Raman spectra —L. N. Ovander. **35**(1), 54–5 (Jul. 1973); CPM-7312F1812

Influence of the effective light field on the Raman spectra of condensed media. II: A method of determining the correction for the observed Raman spectrum —V. M. Sidorenko, V. S. Libov and N. G. Bakhshiev. **35**(2), 158–61 (Aug. 1973); CPM-7312F0082

Symmetry in the Raman scattering of light by cubic crystals with localized centers —A. A. Kaplyanskii and V. K. Negodyiko. **35**(3), 269–73 (Sep. 1973); CPM-7312F1545

5.60.45.40. Infrared and Raman Spectra in Inorganic Semiconductors

Optical constants of GeO_2 oxides in the 4000–200 cm^{-1} region —V. M. Zolotarev and V. N. Morozov. **34**(2), 181–2 (Feb. 1973); CPM-7310E0143

5.60.45.50. Infrared and Raman Spectra in Other Inorganic Crystals

Effect of Fermi Resonance, Bethe and Davidov Splitting on the Fine Structure of Raman Scattering in Carbon Disulfide —I. I. Kondilenko, P. A. Korotkov and G. S. Litvinov. **34**(3), 265–7 (Mar. 1973); CPM-7310E0227

Raman spectrum of a single crystal of apatite —D. K. Arkhipenko, B. A. Orekhov and R. G. Knubovets. **34**(4), 425–6 (Apr. 1973); CPM-7310E0387

Calculation of intensities in an α-quartz crystal as a method of checking on the shapes of the vibrations —A. N. Mirgorodskii and A. N. Lazarev. **34**(5), 514–7 (May 1973); CPM-7311E0076

Interpretation and calculation of optical vibrations in the trigonal modification of germanium dioxide crystals —A. P. Mirgorodskii. **34**(6), 667–8 (Jun. 1973); CPM-7311E0229

Two modifications of phosphorus tribromide —A. T. Kozulin, A. V. Gogolev, V. I. Karmanov and V. A. Murtsovkin. **34**(6), 708–9 (Jun. 1973); CPM-7311E0270

Energy spectra of the layered antiferromagnets Li_2NiF_4, K_2NiF_4 and Rb_2NiF_4 —R. V. Pisarev, A. A. Karamyan, N. N. Nesterova and P. P. Syrnikov. **35**(1), 88–9 (Jul. 1973); CPM-7312F1846

Optical constants of Fe_2O_3 in the infrared range of the spectrum —S. I. Popova, T. S. Tolstykh and L. S. Ivlev. **35**(5), 551 (Nov. 1973); CPM-7403D0091

Temperature dependence of the ir absorption bands of crystals containing complex ions —E. K. Galanov. **35**(6), 654–6 (Dec. 1973); CPM-7404E0072

5.60.45.70. Infrared and Raman Spectra in Organic Crystals

Resonance Spontaneous Raman Scattering Spectra of Cryptocyanine in the Crystalline and Adsorbed State —M. Ya. Tsenter, Ya. S. Bobovich and N. M. Belyaevskaya. **34**(1), 44–5 (Jan. 1973); CPM-7308D0068

Anomalous exciton splitting in the vibrational spectrum of a naphthalene crystal in the 3000 cm^{-1} region —V. L. Broude and A. A. Shirokov. **34**(2), 230–1 (Feb. 1973); CPM-7310E0192

Raman Spectra of Lattice Vibrations in Symmetric 1,2,3 Trihalogenobenzene —A. I. Rubailo, V. F. Shabanov and V. E. Volkov. **34**(3), 268–70 (Mar. 1973); CPM-7310E0230

Infrared Reflection Spectra of Seignette–Salt Single Crystals —I. F. Viblyi, N. A. Romanyuk and V. V. Turkevich. **34**(3), 298–301 (Mar. 1973); CPM-7310E0260

Infrared spectra and hydrogen bonds of hydroxyls of chlorosubstituted phenols. IV. effect of temperature on the spectra of liquid and solid phases —I. S. Perelygin and T. F. Akhunov. **34**(5), 512–3 (May 1973); CPM-7311E0074

Calculation of the small-vibration spectra of molecular crystals with allowance for the effect of intramolecular vibrations —E. I. Mukhtarov and A. A. Pichurin. **34**(6), 665–6 (Jun. 1973); CPM-7311E0227

Diffuse phase transition in crystalline phenanthrene according to ir absorption spectra —G. N. Zhizhin and N. I. Bagdanskis. **34**(6), 669–70 (Jun. 1973); CPM-7311E0231

Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Vibronic structure of absorption spectra of molecular crystals —A. A. Delyukov and G. V. Klimusheva. **35**(6), 648–50 (Dec. 1973); CPM-7404E0066

5.60.50. Visible and Ultraviolet Spectra in Solids

5.60.50.10. General Theory

Method of Calculating the Energy of Optical Transitions from the Valence Band to the Conduction Band in the Framework of a Simplified Model of a Condensed Medium —S. A. Kutolin and R. N. Samoilova. **34**(1), 67–8 (Jan. 1973); CPM-7308D0091

The possibility of comparing NMR experiments with the data of optical and neutron spectroscopy —R. M. Yulmetev. **35**(3), 342–3 (Sep. 1973); CPM-7312F1618

Polaron superradiation —V. V. Samartsev and Z. M. Kaveeva. **35**(5), 560–1 (Nov. 1973); CPM-7403D0100

5.60.50.20. Ionic Crystals

Spectroscopic Properties of Glasslike Solutions with Molecular–Anion Admixture —M. U. Belyi, V. R. Kumeskii and I. Ya. Kushnirenko. **34**(1), 49–53 (Jan. 1973); CPM-7308D0073

Direct transitions in BiI_3 single crystals in a magnetic field —V. N. Kolosyuk and V. I. Vashchenko. **34**(2), 236–7 (Feb. 1973); CPM-7310E0198

Energy spectra of the layered antiferromagnets Li_2NiF_4, K_2NiF_4 and Rb_2NiF_4 —R. V. Pisarev, A. A. Karamyan, N. N. Nesterova and P. P. Syrnikov. **35**(1), 88–9 (Jul. 1973); CPM-7312F1846

Optical characteristics of a fluoroapatite single crystal in the infrared —I. I. Shaganov and V. S. Libov. **35**(1), 106–7 (Jul. 1973); CPM-7312F1864

Optical and magnetooptical properties of iron borate in the visible and near ultraviolet spectral regions —I. S. Edelman and A. V. Malakhovskii. **35**(5), 554–5 (Nov. 1973); CPM-7403D0094

5.60.50.30. Semiconductors

Natural and artificial phenomena of pseudocrossing of dispersion curves by the Rozhdestvenskii hook method —A. Kh. Zilbershtein and L. E. Solovyov. **35**(3), 274–6 (Sep. 1973); CPM-7312F1550

Multiquantum absorption of light by conduction electrons in extrinsic semiconductors —V. L. Malevich and E. M. Epshtein. **35**(3), 346–7 (Sep. 1973); CPM-7312F1622

5.60.50.40. Metals, Semimetals and Alloys

Plasma resonance in granular silver and gold films —I. N. Shklyarevskii, P. L. Pakhomov and T. I. Korneeva. **34**(4), 421–4 (Apr. 1973); CPM-7310E0383

Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

5.60.50.90. Other Materials

Some Problems of the Spectroscopy of Organic Compounds —S. I. Kubarev and O. A. Ponomarev. **34**(1), 46–8 (Jan. 1973); CPM-7308D0070

Absorption and Fluorescence Spectra of Solutions of Anthracene and Its Methyl Derivatives in a Polymethylmethacrylate Matrix —D. A. Sukhov and F. I. Vilesov. **34**(1), 112–4 (Jan. 1973); CPM-7308D0136

Nature of the absorption bands and the origin of the high nonlinear dielectric susceptibility of molecular crystals —B. L. Davydov, V. V. Dunina, V. F. Zolin and L. G. Koreneva. **34**(2), 150–3 (Feb. 1973); CPM-7310E0112

Polarized phosphorescence and absorption of crystalline silver nitrite —L. E. Reznik and P. R. Garber. **34**(2), 237–8 (Feb. 1973); CPM-7310E0199

Optical Absorption and Luminescence Spectra of Zinc– and Cadmium–Tungstate Single Crystals Activated with Chromium (Cr^{3+}) —A. E. Nosenko and D. L. L. Futorskii. **34**(3), 286–7 (Mar. 1973); CPM-7310E0248

Optical spectra of ion–group ions in $LiAl_5O_8$ single crystals —M. N. Baranov and E. F. Kustov. **34**(4), 419–20 (Apr. 1973); CPM-7310E0381

Properties of surface– and bulk–exciton spectra of an anthracene crystal for various orientations of the wave vector —M. S. Brodin, M. A. Dudinskii and S. V. Marisova. **34**(6), 651–4 (Jun. 1973); CPM-7311E0213

Localized biexcitons in molecular crystals —A. I. Onipko and V. I. Sugakov. **34**(6), 655–8 (Jun. 1973); CPM-7311E0217

Kinetics of radiation coloring of crystalline quartz —V. V. Soroka and N. A. Pravdin. **34**(6), 671–2 (Jun. 1973); CPM-7311E0233

Temperature dependence of ir absorption in fused quartz at high temperatures —L. V. Prikhodko and Kh. S. Bagdasarov. **34**(6), 702 (Jun. 1973); CPM-7311E0264

Allowance for the differences between effective and average fields in the experimental determination of the characteristics of molecular transitions from the vibronic spectra of the anthracene crystal —I. I. Shigorin, V. S. Libov and N. G. Bakhshiev. **35**(2), 134–6 (Aug. 1973); CPM-7312F0058

Mirror symmetry in spectra and properties of excited states of uranyl complexes —I. M. Kopashova, G. N. Larkin and D. S. Umreiko. **35**(2), 143–6 (Aug. 1973); CPM-7312F0067

Fundamental reflectance spectra of triglycine sulfate —Z. S. Vasilina and N. A. Romanyuk. **35**(2), 177–8 (Aug. 1973); CPM-7312F0101

Optical properties of SiO_2 in the spectral region 5–40 eV —O. M. Sorokin, V. A. Blank and G. A. Lebedeva. **35**(3), 291–4 (Sep. 1973); CPM-7312F1567

5.60.60. Impurity and Defect Absorption in Solids

5.60.60.20. Ionic Crystals

Temperature shift of the energy levels of the Nd^{3+} ion in yttrium–aluminum–garnet single crystals —E. M. Ostrovskaya, S. A. Sazonova and B. S. Skorobogatov. **34**(2), 178–80 (Feb. 1973); CPM-7310E0140

Thermal Coagulation of F Centers in KCl Crystals Doped with Alkali Metals —V. V. Golubtsov and A. B. Goldenberg. **34**(3), 291–3 (Mar. 1973); CPM-7310E0253

Color Centers and Recombination Luminescence in KI–Ag Crystals — E. E. Penzina, I. A. Parfianovich and B. D. Lobanov. **34**(3), 294–7 (Mar. 1973); CPM-7310E0256

Effect of x-rays on NaF–Eu^{3+} single crystals —G. D. Potapenko and V. F. Pisarenko. **34**(4), 461–2 (Apr. 1973); CPM-7310E0423

Optical absorption spectra of excited Cr^{3+} ions in magnesium spinel at room and liquid nitrogen temperatures —D. T. Sviridov, B. K. Sevastyanov, V. P. Orekhova, R. K. Sviridova and T. F. Veremeichik. **35**(1), 59–61 (Jul. 1973); CPM-7312F1817

Sodium color centers in potassium bromide crystals —V. P. Avdonin, A. F. Nechaev and B. T. Plachenov. **35**(4), 379–81 (Oct. 1973); CPM-7402D0121

Quadratic pseudo–Stark splitting of a phononless line of N_1 color centers in lithium fluoride —A. A. Kaplyanskii, V. N. Medvedev and A. P. Skvortsov. **35**(4), 382–4 (Oct. 1973); CPM-7402D0124

Optical spectra and interaction of rare earth ions in doubly activated fluorite crystals —S. Kh. Batygov, Yu. K. Voronko, L. S. Gaigerova and V. S. Federov. **35**(5), 505–8 (Nov. 1973); CPM-7403D0045

5.60.60.90. Other Materials

Spectroscopic manifestations of ordering in the positions of phenanthrene molecules in solids solutions —E. G. Moisya, G. M. Semenovich and P. N. Logvinenko. **34**(2), 157–60 (Feb. 1973); CPM-7310E0119

Relationship between fluorescence spectra of impurity molecules and phase transitions in crystalline cyclopentane —L. P. Gladkikh and L. A. Klimova. **34**(2), 161–2 (Feb. 1973); CPM-7310E0123

F–f transitions in the spectra of $KMgF_3$ and $NaMgF_3$ crystals activated with Eu^{2+} —S. N. Bodrug, E. G. Valyashko, V. N. Mednikova, D. T. Sviridov and R. K. Sviridov. **34**(2), 176–7 (Feb. 1973); CPM-7310E0138

Energy spectrum of Dy^{3+} ion in single crystals of the $KY(MoO_4)_2$–$KDy(MoO_4)_2$ system —T. S. Stetsenko, A. M. Pshisukha, S. D. Elchaninova and A. I. Zvyagin. **34**(2), 227–8 (Feb. 1973); CPM-7310E0189

Shape of electronic–vibrational spectra of interacting impurity centers —N. N. Kristoffel. **35**(2), 179–82 (Aug. 1973); CPM-7312F0103

Temperature shift of Nd^{3+} energy levels in $CaWO_4$ crystals —V. I. Bonchkovskii, V. A. Kobzar–Zlenko, S. A. Sazonova and B. S. Skorobogatov. **35**(3), 281–2 (Sep. 1973); CPM-7312F1557

Special features of luminescence of a Pr^{3+} ion in a scheelite–type crystals under excitation into the charge transfer band —E. G. Reut and A. I. Ryskin. **35**(4), 391–3 (Oct. 1973); CPM-7402D0133

5.60.70. Luminescence and Radiative Recombination in Solids

5.60.70.20. Photoluminescence, Fluorescence and Phosphorescence

Spectroscopic Properties of Glasslike Solutions with Molecular–Anion Admixture —M. U. Belyi, V. R. Kumeskii and I. Ya. Kushnirenko. **34**(1), 49–53 (Jan. 1973); CPM-7308D0073

Temperature Variations of the Electronic–Vibrational Spectrum of $LaAlO_3$–Cr^{3+} Crystals —A. M. Tkachuk and A. A. Fedorov. **34** (1), 61–2 (Jan. 1973); CPM-7308D0085

Luminescence Centers in KBr–TlBr Single Crystals with TlBr Concentrations up to 20 mol.% —R. I. Gindina, A. A. Elango, A. A. Khaav, A. A. Maaroos and A. A. Tsirk. **34**(1), 63–6 (Jan. 1973); CPM-7308D0087

UV Luminescence and Nonlinear Quenching in Ruby —I. Ya. Gerlovin and N. A. Tolstoi. **34**(1), 69–71 (Jan. 1973); CPM-7308D0093

Absorption and Fluorescence Spectra of Solutions of Anthracene and Its Methyl Derivatives in a Polymethylmethacrylate Matrix —D. A. Sukhov and F. I. Vilesov. **34**(1), 112–4 (Jan. 1973); CPM-7308D0136

Relationship between fluorescence spectra of impurity molecules and phase transitions in crystalline cyclopentane —L. P. Gladkikh and L. A. Klimova. **34**(2), 161–2 (Feb. 1973); CPM-7310E0123

F–f transitions in the spectra of $KMgF_3$ and $NaMgF_3$ crystals activated with Eu^{2+} —S. N. Bodrug, E. G. Valyashko, V. N. Mednikova, D. T. Sviridov and R. K. Sviridov. **34**(2), 176–7 (Feb. 1973); CPM-7310E0138

Polarized phosphorescence and absorption of crystalline silver nitrite —L. E. Reznik and P. R. Garber. **34**(2), 237–8 (Feb. 1973); CPM-7310E0199

Optical Absorption and Luminescence Spectra of Zinc– and Cadmium–Tungstate Single Crystals Activated with Chromium (Cr^{3+}) —A. E. Nosenko and D. L. L. Futorskii. **34**(3), 286–7 (Mar. 1973); CPM-7310E0248

Color Centers and Recombination Luminescence in KI–Ag Crystals — E. E. Penzina, I. A. Parfianovich and B. D. Lobanov. **34**(3), 294–7 (Mar. 1973); CPM-7310E0256

Dependence on the Position of Luminescence Bands Due to Tl^+ Centers on Ionic Radii of Cations and Anions in the Host Lattice of Some Alkali–Halide Crystals —V. N. Vishnevskii and N. S. Pidzyrailo. **34**(3), 338–9 (Mar. 1973); CPM-7310E0300

Polarized Luminescence of CaF_2–Yb^{2+} Crystals —A. A. Kaplyanskii and P. L. Smolyanskii. **34**(3), 361–2 (Mar. 1973); CPM-7310E0323

Luminescence mechanism of pair centers in KI–Tl phosphor —L. P. Smolskaya, I. A. Parfianovich, E. I. Shuraleva and L. V. Morozhnikova. **34**(4), 416–8 (Apr. 1973); CPM-7310E0378

Optical spectra of ion–group ions in $LiAl_5O_8$ single crystals —M. N. Baranov and E. F. Kustov. **34**(4), 419–20 (Apr. 1973); CPM-7310E0381

Fluorescence of mechanically ground crystalline naphthalene —V. P. Vorobev and M. T. Shpak. **34**(4), 460–1 (Apr. 1973); CPM-7310E0422

Effect of x-rays on NaF–Eu^{3+} single crystals —G. D. Potapenko and V. F. Pisarenko. **34**(4), 461–2 (Apr. 1973); CPM-7310E0423

Characteristics of energy transfer between rare earth ions in sodium borosilicate glasses during microlayering —G. V. Obraztsov, A. L. Reishakhrit and M. N. Tolstoi. **34**(4), 463–4 (Apr. 1973); CPM-7310E0425

Distribution of short-lived color centers over a section of laser neodymium–glass rod —L. B. Glebov and M. N. Tolstoi. **34**(5), 572–3 (May 1973); CPM-7311E0134

Phosphorescence of aromatic compounds at 77 K, 20 K, and 4 K. Quasilinear spectra of diphenylene oxide at 4 K —P. A. Teplyakov, V. P. Grosul and Yu. R. Redkin. **34**(6), 662–4 (Jun. 1973); CPM-7311E0224

Temperature depolarization of the luminescence of KCl–Sn^{2+} type centers —N. N. Kristofel and V. V. Khizhnyakov. **34**(6), 721–2 (Jun. 1973); CPM-7311E0283

Luminescence and excitation spectra of LiH and LiD single crystals at low temperatures —L. A. Rebane, B. V. Vlasov, F. F. Gavrilov, S. O. Cholakh and V. D. Pirogov. **35**(1), 91–2 (Jul. 1973); CPM-7312F1849

Nonradiative energy transfer from rare earth ions to organic radicals —T. A. Shakhverdov. **35**(1), 96–7 (Jul. 1973); CPM-7312F1854

Spin memory of Eu^{2+} in CaF_2 —A. V. Komarov and S. M. Ryabchenko. **35**(1), 100–1 (Jul. 1973); CPM-7312F1858

Interaction of excitons and exciton annihilation —A. I. Onipko and V. I. Sugakov. **35**(1), 108–9 (Jul. 1973); CPM-7312F1866

Mirror symmetry in spectra and properties of excited states of uranyl complexes —I. M. Kopashova, G. N. Larkin and D. S. Umreiko. **35**(2), 143–6 (Aug. 1973); CPM-7312F0067

Temperature shift of Nd^{3+} energy levels in $CaWO_4$ crystals —V. I. Bonchkovskii, V. A. Kobzar–Zlenko, S. A. Sazonova and B. S. Skorobogatov. **35**(3), 281–2 (Sep. 1973); CPM-7312F1557

Nonradiative deactivation of Cr^{3+} and Co^{3+} ions in frozen solutions —E. B. Sveshnikov and I. B. Neporent. **35**(3), 283–5 (Sep. 1973); CPM-7312F1559

Mechanism of radiation–induced and photoexcited scintillations in CsI–Tl —I. R. Gulakov and A. N. Pertsev. **35**(3), 286–8 (Sep. 1973); CPM-7312F1562

Transformation of neodymium–laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

Interpretation of luminescence spectra of uranyl molybdate and uranyl tungstate —V. F. Zolin, S. P. Rozman and P. S. Fisher. **35**(3), 345–6 (Sep. 1973); CPM-7312F1621

Luminescence and the energy transfer of singlet excitation in solid styrene monomer —Yu. N. Demikhov, A. N. Faidysh and V. N. Yashchuk. **35**(4), 377–8 (Oct. 1973); CPM-7402D0119

Sodium color centers in potassium bromide crystals —V. P. Avdonin, A. F. Nechaev and B. T. Plachenov. **35**(4), 379–81 (Oct. 1973); CPM-7402D0121

Special features of luminescence of a Pr^{3+} ion in a scheelite–type crystals under excitation into the charge transfer band —E. G. Reut and A. I. Ryskin. **35**(4), 391–3 (Oct. 1973); CPM-7402D0133

Luminescence of chromium–ion pairs in ruby in the region of antistokes phonon satellites of the R–lines —L. P. Nikitin, A. Ya. Ryskin and Z. M. Khashkhozhev. **35**(4), 454–5 (Oct. 1973); CPM-7402D0196

Temperature quenching of uranium luminescence in scheelite–type single crystals —L. G. Morozova and P. P. Feofilov. **35**(4), 458–9 (Oct. 1973); CPM-7402D0200

Spectral evidence of matrix–isolated and collective centers in frozen n–paraffin solutions —L. A. Klimova, A. I. Ogloblina, G. N. Nersesova and V. I. Glyadkovskii. **35**(5), 488–90 (Nov. 1973); CPM-7403D0028

Photoluminescence and phototransfer of an electron in acid aqueous solutions of Eu(II) —R. G. Bulgakov, V. P. Kazakov and V. N. Korobeinikova. **35**(5), 497–500 (Nov. 1973); CPM-7403D0037

Virtual charge exchange as a mechanism of non–radiative transition between terms of rare–earth ions in scheelite and fergusonite type crystals —E. G. Reut and A. I. Ryskin. **35**(5), 501–4 (Nov. 1973); CPM-7403D0041

Optical spectra and interaction of rare earth ions in doubly activated fluorite crystals —S. Kh. Batygov, Yu. K. Voronko, L. S. Gaigerova and V. S. Federov. **35**(5), 505–8 (Nov. 1973); CPM-7403D0045

Theoretical and experimental study of localized levels in KCl–Eu^{2+} — I. A. Parfianovich, V. M. Metsik, V. N. Salomatov and E. I. Shuraleva. **35**(5), 509–10 (Nov. 1973); CPM-7403D0049

Effect of matrix disorder on anti–Stokes luminescence of Er^{3+} —M. S. Orlov, I. G. Saitkulov and A. L. Stolov. **35**(5), 568–70 (Nov. 1973); CPM-7403D0108

Temperature broadening and shift of phononless lines in the spectra of crystalline uranyl compound with a polymer–type structure —R. N. Shchelokov, G. V. Ellert, V. E. Karasev, Yu. I. Krasilov and G. M. Gaevoi. **35**(5), 570–1 (Nov. 1973); CPM-7403D0110

Temperature dependence of the lifetime of excited UO_2^{2+} ions in frozen sulfuric acid solutions: role of structural transitions —V. P. Kazakov, V. N. Korobeinikov, Yu. N. Chuvilin, V. V. Rykova and I. G. Kovelzon. **35**(5), 576–7 (Nov. 1973); CPM-7403D0116

Photostimulated thermoluminescence of fluorite crystals doped with rare earth ions —L. S. Kornienko, A. A. Lozhnikov, V. I. Nazarov and P. V. Chernov. **35**(6), 651–3 (Dec. 1973); CPM-7404E0069

5.60.70.40. Other Excitation Mechanisms

Effect of Radiation from Radioactive Material on Natural–Quartz Thermoluminescence —R. I. Shekhmametev. **34**(3), 288–90 (Mar. 1973); CPM-7310E0250

Radioluminescence of Toluene Solid Solutions —I. A. Lisovskaya and M. V. Alfimov. **34**(3), 353–4 (Mar. 1973); CPM-7310E0315

Mechanism of radiation–induced and photoexcited scintillations in CsI–Tl —I. R. Gulakov and A. N. Pertsev. **35**(3), 286–8 (Sep. 1973); CPM-7312F1562

Thermally stimulated luminescence in KI phosphors —L. P. Smolskaya, I. A. Parfianovich and E. I. Shuraleva. **35**(4), 385–7 (Oct. 1973); CPM-7402D0127

Radiation–induced defects in fluorite unstable at 77 K —N. E. Kask, L. S. Kornienko and P. V. Chernov. **35**(6), 683–4 (Dec. 1973); CPM-7404E0101

5.60.70.50. Effects of Various Parameters and Quenching

UV Luminescence and Nonlinear Quenching in Ruby —I. Ya. Gerlovin and N. A. Tolstoi. **34**(1), 69–71 (Jan. 1973); CPM-7308D0093

Characteristics of energy transfer between rare earth ions in sodium borosilicate glasses during microlayering —G. V. Obraztsov, A. L. Reishakhrit and M. N. Tolstoi. **34**(4), 463–4 (Apr. 1973); CPM-7310E0425

Intramolecular nonradiative transitions in the condensed phase —V. G. Plotnikov and G. G. Konoplev. **34**(6), 639–42 (Jun. 1973); CPM-7311E0201

Effect of temperature on the luminescence quenching constant in hydrogen bonded complexes —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(6), 718–9 (Jun. 1973); CPM-7311E0280

Nonradiative energy transfer from rare earth ions to organic radicals —T. A. Shakhverdov. **35**(1), 96–7 (Jul. 1973); CPM-7312F1854

Singlet–doublet and triplet–doublet inductive–resonance energy transfer —I. A. Lisovskaya, V. G. Plotnikov and M. V. Alfimov. **35**(6), 634–5 (Dec. 1973); CPM-7404E0052

Effect of temperature and excitation intensity on the edge emission of βSiC(Al,N) crystals —Nguen Ngok Long and D. S. Nedzvetskii. **35**(6), 645–7 (Dec. 1973); CPM-7404E0063

5.60.80. Photoconductivity and Photovoltaic Effects

Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

Spectral dependences of the photoconductivity of anthracene single crystals with electrolytic injecting contacts —R. I. Kukhtin, A. B. Imenitov, B. T. Lozhkin and L. I. Boguslavskii. **35**(5), 491–3 (Nov. 1973); CPM-7403D0031

5.60.90. Other Optical Properties of Solids

Optical activity of a thallium–uranyl–propionate crystal —Z. M. Alikhanova, V. I. Burkov, V. A. Kizel, Yu. I. Krasilov, V. A. Madii and G. M. Safronov. **34**(5), 573–4 (May 1973); CPM-7311E0135

Transmission of coherent radiation through a birefringent optically active medium in an arbitrary direction. Jones matrices —V. D. Tronko and G. E. Dovgalenko. **34**(6), 673–6 (Jun. 1973); CPM-7311E0235

Gyrotropy of sillenite–type crystals —V. A. Kizel, V. I. Burkov, Yu. I. Krasilov, N. L. Kozlova, G. M. Safronov and V. N. Batog. **34**(6), 677–80 (Jun. 1973); CPM-7311E0239

Superradiative state and echo from coherent quasi–particules in semiconductors in an interband transition —V. S. Abramov and U. Kh. Kopvillem. **35**(6), 662–4 (Dec. 1973); CPM-7404E0080

5.70. PASSAGE OF PARTICLES AND RADIATION THROUGH SOLIDS

5.70.45. Radiation Damage

Effect of Radiation from Radioactive Material on Natural–Quartz Thermoluminescence —R. I. Shekhmametev. **34**(3), 288–90 (Mar. 1973); CPM-7310E0250

Color Centers and Recombination Luminescence in KI–Ag Crystals — E. E. Penzina, I. A. Parfianovich and B. D. Lobanov. **34**(3), 294–7 (Mar. 1973); CPM-7310E0256

Emission of a ruby laser under Co^{60} gamma radiation —M. R. Bedilov and K. Khaidarov. **34**(4), 441–2 (Apr. 1973); CPM-7310E0403

Effect of x–rays on NaF–Eu^{3+} single crystals —G. D. Potapenko and V. F. Pisarenko. **34**(4), 461–2 (Apr. 1973); CPM-7310E0423

Kinetics of radiation coloring of crystalline quartz —V. V. Soroka and N. A. Pravdin. **34**(6), 671–2 (Jun. 1973); CPM-7311E0233

Effect of x–ray irradiation of cells on nuclear relaxation of optically oriented Hg^{199} and Hg^{201} atoms —A. N. Kuznetsov, I. E. Grinko and V. F. Terzeman. **35**(3), 238–9 (Sep. 1973); CPM-7312F1514

Radiation–induced defects in fluorite unstable at 77 K —N. E. Kask, L. S. Kornienko and P. V. Chernov. **35**(6), 683–4 (Dec. 1973); CPM-7404E0101

5.70.90. Other Particle Phenomena in Solids

Effect of Radiation from Radioactive Material on Natural–Quartz Thermoluminescence —R. I. Shekhmametev. **34**(3), 288–90 (Mar. 1973); CPM-7310E0250

Emission of a ruby laser under Co^{60} gamma radiation —M. R. Bedilov and K. Khaidarov. **34**(4), 441–2 (Apr. 1973); CPM-7310E0403

The possibility of comparing NMR experiments with the data of optical and neutron spectroscopy —R. M. Yulmetev. **35**(3), 342–3 (Sep. 1973); CPM-7312F1618

5.80. PHYSICS OF SURFACES, THIN FILMS, INTERFACES AND SMALL PARTICLES

5.80.10. Structural Properties of Surfaces, Thin Films, Interfaces, Whiskers and Dendrites

Optical studies of inhomogeneities of metal layers deposited in vacuum —E. Idchak, R. G. Yarovaya, I. N. Shklyarevskii and A. G. Gimaev. **34**(2), 183–5 (Feb. 1973); CPM-7310E0145

Ellipsometry of thin two–layer coatings on metal substrates —A. I. Rybalka and I. N. Shklyarevskii. **35**(6), 681–2 (Dec. 1973); CPM-7404E0099

5.80.60. Optical and Dielectric Properties of Surfaces, etc.

Optical studies of inhomogeneities of metal layers deposited in vacuum —E. Idchak, R. G. Yarovaya, I. N. Shklyarevskii and A. G. Gimaev. **34**(2), 183–5 (Feb. 1973); CPM-7310E0145

Some electrical and optical properties of chromium–, nolybdenum– and tungsten–nitride layers —L. A. Cherezova and B. P. Kryzhanovskii. **34**(2), 234–6 (Feb. 1973); CPM-7310E0196

Investigation of the Optical Constants of $PbCl_2$ and $PbBr_2$ at 78 K in the Energy Range 3.5–11.0 eV —A. F. Malysheva and V. G. Plekhanov. **34**(3), 302–4 (Mar. 1973); CPM-7310E0264

Determination of the Optical Density of Semiconductor Layers on Transparent Substrates —M. W. Kurik and A. Kh. Rozhko. **34**(3), 305–6 (Mar. 1973); CPM-7310E0267

Plasma resonance in granular silver and gold films —I. N. Shklyarevskii, P. L. Pakhomov and T. I. Korneeva. **34**(4), 421–4 (Apr. 1973); CPM-7310E0383

Optical properties of bismuth thin films —A. I. Usoskin, I. N. Shklyarevskii, A. S. Gerchikov and Yu. S. Verlinskii. **34**(5), 549–51 (May 1973); CPM-7311E0111

Properties of thin–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **34**(6), 695–7 (Jun. 1973); CPM-7311E0257

Absorption coefficients of rare–earth elements of the lanthanum group in the ultrasoft X–ray region —S. A. Gribovskii and T. M. Zimkina. **35**(1), 104–5 (Jul. 1973); CPM-7312F1862

Ellipsometry of thin two–layer coatings on metal substrates —A. I. Rybalka and I. N. Shklyarevskii. **35**(6), 681–2 (Dec. 1973); CPM-7404E0099

5.80.90. Other Topics in Physics of Surfaces, etc.

Some electrical and optical properties of chromium–, nolybdenum– and tungsten–nitride layers —L. A. Cherezova and B. P. Kryzhanovskii. **34**(2), 234–6 (Feb. 1973); CPM-7310E0196

Effect of size quantization on the Faraday effect in an electron gas — A. E. Glauberman and B. N. Khlopkov. **35**(5), 564–5 (Nov. 1973); CPM-7403D0104

5.90. SOLID STATE DEVICES

Contribution to the theory of an optical micropyrometer —A. V. Kogan. **35**(3), 323–5 (Sep. 1973); CPM-7312F1599

Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

6.10. ACOUSTICS

Optical Method for Measuring Directivity Characteristics of Planar Acoustical Radiators —N. R. Kukhar. **34**(1), 103–4 (Jan. 1973); CPM-7308D0127

6.20. ELECTROMAGNETIC TECHNOLOGICAL APPLICATIONS

Investigation of gelatin film optical microwaveguides —L. N. Deryugin and T. K. Chekhlova. **35**(2), 209–11 (Aug. 1973); CPM-7312F0133

6.30. OPTICS

6.30.20. Propagation and Transmission in Homogeneous and Isotropic Media

6.30.20.10. General

Transient radiation of a charge crossing an optically active dielectric plate —O. S. Mergelyan and R. M. Rakhmatullaev. **34**(6), 681–2 (Jun. 1973); CPM-7311E0243

6.30.20.30. Edge and Boundary Effects

Investigation of the selective properties of open unstable cavities —G. N. Vinokurov, V. V. Lyubimov and I. B. Orlova. **34**(4), 427–32 (Apr. 1973); CPM-7310E0389

Self-diffraction of coherent radiation interacting with transparent substances —A. S. Rubanov and E. V. Ivakin. **34**(6), 686–8 (Jun. 1973); CPM-7311E0248

The unscattered component of laser radiation after passing through a rough surface —N. P. Larionov, A. V. Lukin and K. S. Mustafin. **35**(5), 525–7 (Nov. 1973); CPM-7403D0065

6.30.20.40. Scattering and Reflection from Extended Bodies

Investigation of the selective properties of open unstable cavities —G. N. Vinokurov, V. V. Lyubimov and I. B. Orlova. **34**(4), 427–32 (Apr. 1973); CPM-7310E0389

Reflection of a laser beam from the interface of isotopic dielectrics — A. M. Belskii and A. P. Khapalyuk. **35**(1), 67–8 (Jul. 1973); CPM-7312F1825

Improvement of image quality in observation through scattering media —A. D. Galpern. **35**(1), 81–3 (Jul. 1973); CPM-7312F1839

6.30.20.50. Absorption

Absorption analysis of strongly-absorbing substances —S. Ya. Petrov and B. D. Fainberg. **34**(4), 472 (Apr. 1973); CPM-7310E0434

Application of the diffusion equation to light transmission through scattering media —N. M. Bazhin and S. M. Baranov. **34**(5), 555–8 (May 1973); CPM-7311E0117

Light transmission through a rough surface. Part 2 —A. S. Toporets. **34**(5), 559–61 (May 1973); CPM-7311E0121

Range of application of the double-flow approximation for determining the absorption of scattering objects —M. Yu. Sakhnovskii and A. F. Kotik. **34**(6), 689–91 (Jun. 1973); CPM-7311E0251

Trajectories and current lines of nonuniform electromagnetic wave energy in an isotropic absorbing medium —F. I. Fedorov and V. V. Filippov. **35**(1), 77–80 (Jul. 1973); CPM-7312F1835

6.30.20.60. Coherence

Investigation of the State of Polarization of Light Using the Rotating Birefringent Compensator Method —V. A. Zamkov. **34**(1), 92–4 (Jan. 1973); CPM-7308D0116

Asymptotic Behavior of Degrees of Higher Order Coherence —V. Ya. Anisimov. **34**(3), 336 (Mar. 1973); CPM-7310E0298

Self-diffraction of coherent radiation interacting with transparent substances —A. S. Rubanov and E. V. Ivakin. **34**(6), 686–8 (Jun. 1973); CPM-7311E0248

Degree of coherence of scattered light —B. A. Sotskii and V. Ya. Anisimov. **35**(3), 341 (Sep. 1973); CPM-7312F1617

6.30.30. Propagation and Transmission in Homogeneous and Nonisotropic Media

Some special features of vector synchronous interaction of light waves in anistropic crystals —G. V. Krivoshchekov, V. I. Stroganov, V. I. Samarin and V. M. Tarasov. **34**(2), 196–7 (Feb. 1973); CPM-7310E0158

Faraday effect in cubic ferrimagnets with magnetic birefringence —F. V. Lisovskii. **34**(5), 545–8 (May 1973); CPM-7311E0107

Transmission of coherent radiation through a birefringent optically active medium in an arbitrary direction. Jones matrices —V. D. Tronko and G. E. Dovgalenko. **34**(6), 673–6 (Jun. 1973); CPM-7311E0235

Natural and artificial phenomena of pseudocrossing of dispersion curves by the Rozhdestvenskii hook method —A. Kh. Zilbershtein and L. E. Solovyov. **35**(3), 274–6 (Sep. 1973); CPM-7312F1550

Determination of characteristic parameters of optically anisotropic layers —M. F. Bokshtein. **35**(3), 336–8 (Sep. 1973); CPM-7312F1612

Anisotropy of a nonlinear refractive index in acentric crystals: linear electrooptic effect —Yu. V. Shaldin and D. A. Belogurov. **35**(4), 403–7 (Oct. 1973); CPM-7402D0145

Reflectance and transmittance for the interface between an absorbing and a transparent medium —B. B. Boiko, N. S. Petrov and F. I. Fedorov. **35**(6), 677–9 (Dec. 1973); CPM-7404E0095

6.30.40. Propagation and Transmission in Inhomogeneous Media

6.30.40.20. Wave Front and Ray Tracing and Beam Spread in Random, Turbulent Media

Dynamics of clearing a low-absorbing turbid medium in an intense light field —V. I. Bukatii, Yu. D. Kopytin, M. M. Krekova and G. M. Krekov. **35**(4), 418–9 (Oct. 1973); CPM-7402D0160

6.30.40.30. Coherence in Random, Turbulent Media

Influence of edge effects on the incoherent scattering of light by a dispersed phase —G. V. Rozenberg and Yu. R. Ozorovich. **35**(2), 203–5 (Aug. 1973); CPM-7312F0127

6.30.40.40. Scattering from Haze, Fog, Dust, etc.

Application of the diffusion equation to light transmission through scattering media —N. M. Bazhin and S. M. Baranov. **34**(5), 555–8 (May 1973); CPM-7311E0117

Light transmission through a rough surface. Part 2 —A. S. Toporets. **34**(5), 559–61 (May 1973); CPM-7311E0121

Influence of edge effects on the incoherent scattering of light by a dispersed phase —G. V. Rozenberg and Yu. R. Ozorovich. **35**(2), 203–5 (Aug. 1973); CPM-7312F0127

Path distribution of photons in low absorption powders —V. I. Dianov-Klokov and E. V. Fokeeva. **35**(3), 302–6 (Sep. 1973); CPM-7312F1578

Energy losses of a charges particle moving in a medium with weak scattering —B. M. Bolotovskii and R. S. Isaev. **35**(4), 450–1 (Oct. 1973); CPM-7402D0192

Estimation of the boundaries of a size spectrum and selection of wavelengths for optical sounding of an atmospheric aerosol —I. E. Naats. **35**(5), 558–60 (Nov. 1973); CPM-7403D0098

Autocorrelation function of doubly scattered radiation —A. P. Ivanov, A. Ya. Khairullina and A. P. Chaikovskii. **35**(6), 668–71 (Dec. 1973); CPM-7404E0086

Spectral turbidimetry of concentrated disperse systems —V. I. Klenin, S. Yu. Shchegolev and L. G. Lebedeva. **35**(6), 672–4 (Dec. 1973); CPM-7404E0090

6.30.40.90. Other Topics in Propagation in Inhomogeneous Media

Scattering of light by a layer of various degrees of dispersion —A. P. Ivanov, A. P. Prishivalko and E. K. Naumenko. **35**(5), 522–4 (Nov. 1973); CPM-7403D0062

6.30.45. Quantum Optics

Scattering of light by coherent systems —O. N. Godomskii and V. R. Nagibarov. **34**(2), 218–20 (Feb. 1973); CPM-7310E0180

Statistical phenomena in the transient of a He–Ne laser with a given initial photon distribution —S. V. Bazhenov, V. E. Brazovskii and G. G. Telegin. **35**(1), 62–6 (Jul. 1973); CPM-7312F1820

Conservation laws in processes of nonlinear transformations of light —E. G. Bashkanskii and V. V. Mityugov. **35**(2), 183–5 (Aug. 1973); CPM-7312F0107

Scattering of strong polarized waves by a two-level atom —V. M. Arutyunyan, E. G. Kanetsyan and V. O. Chaltykyan. **35**(2), 186–8 (Aug. 1973); CPM-7312F0110

Fine structure of a scattered-radiation field —V. K. Polyanskii and L. V. Kovalskii. **35**(2), 200–2 (Aug. 1973); CPM-7312F0124

Some properties of coherent optical fields —V. F. Boitsov, Yu. E. Murakhver and S. G. Slyusarev. **35**(4), 411–4 (Oct. 1973); CPM-7402D0153

Linear susceptibility of a three-level system in an intense nonmonochromatic radiation field —S. G. Przhibelskii. **35**(4), 415–7 (Oct. 1973); CPM-7402D0157

Statistical phenomena in many-photon processes —F. A. Vorobev and R. I. Sokolovskii. **35**(4), 452–3 (Oct. 1973); CPM-7402D0194

Gain of a laser amplifier in regenerative and super-regenerative modes —A. A. Mak, V. I. Ustyugov and V. A. Fromzel. **35**(5), 528–31 (Nov. 1973); CPM-7403D0068

Value of the gain for light internally reflected from a medium with inverted population —S. A. Lebedev, V. M. Volkov and B. Ya. Kogan. **35**(5), 565–6 (Nov. 1973); CPM-7403D0105

6.30.50. Lasers and Masers

6.30.50.10. General Theory and Experiments on Laser and Maser Action

Three-Mode Oscillation in a Ring Laser —S. G. Zeiger. **34**(1), 72–6 (Jan. 1973); CPM-7308D0096

Special Features of Neodymium Glass Generation at a Wavelength of 0.92 μm —O. D. Gavrilov, A. A. Mak, D. S. Prilezhaev, V. I. Ustyugov and V. A. Fromzel. **34**(1), 77–80 (Jan. 1973); CPM-7308D0101

Theory of a high-pressure infrared chemical laser —V. A. Kochelap and Yu. A. Kukibnyi. **34**(2), 186–90 (Feb. 1973); CPM-7310E0148

Possibility of creating population inversion and infrared signal amplifications on excited molecular vibration levels in conditions of unsteady induced Raman scattering —M. A. Kovner, B. A. Medvedev and O. M. Parshkov. **34**(4), 404–6 (Apr. 1973); CPM-7310E0366

Low-frequency modulation of solid-state laser emission in axial mode-locking conditions —T. N. Zubarev, V. M. Martynov and Yu. A. Tarasov. **34**(4), 433–4 (Apr. 1973); CPM-7310E0395

Two-frequency neodymium-activated glass laser —R. B. Andreev and V. D. Volosov. **34**(4), 468–9 (Apr. 1973); CPM-7310E0430

Spiked structure of stimulated emission pulses in rubidium vapor —F. A. Korolev, V. I. Atroshchenko, S. A. Bakhramov and V. I. Odintsov. **34**(5), 591–2 (May 1973); CPM-7311E0153

The study of lasing spectra in the vibrational transitions of the CO molecule —A. V. Anokhin, S. V. Markova and G. G. Petrash. **35** (1), 94–5 (Jul. 1973); CPM-7312F1852

Stimulated lasing by solutions of anthracene derivatives —A. V. Aristov, V. A. Kuzin and A. S. Cherkasov. **35**(2), 192–4 (Aug. 1973); CPM-7312F0116

Quick-damping absorption in polymethine dyes induced by picosecond pulses of ruby-laser emission —A. N. Rubinov and I. M. Korda. **35**(2), 221–2 (Aug. 1973); CPM-7312F0145

Effect of radiation polarization on the interaction of modes of two lasing channels coupled by a common level —G. V. Melekhin and G. P. Melekhina. **35**(4), 420–5 (Oct. 1973); CPM-7402D0162

Theory of locking in a gas ring laser. Part 2 —Yu. P. Gudkov. **35**(5), 532–6 (Nov. 1973); CPM-7403D0072

Spontaneous emission of atoms in an intense field and its relationship to noise in lasers —Yu. L. Klimontovich, A. S. Kovalev and P. S. Landa. **35**(6), 590–2 (Dec. 1973); CPM-7404E0008

Enhancement of axial brightness of lases beams by holographic phase correction —M. D. Bondarenko and M. S. Soskin. **35**(6), 665–7 (Dec. 1973); CPM-7404E0083

6.30.50.20. Gas and Ion Lasers and Masers

Calculation of Population Relaxation for Rotational Levels —L. A. Kolosovskaya. **34**(1), 101–2 (Jan. 1973); CPM-7308D0125

Use of the sharp resonances in methane for He-Ne laser frequency stabalization at $\lambda = 3.39\ \mu$ —S. N. Bagaev and A. K. Dmitriev. **34** (2), 191–3 (Feb. 1973); CPM-7310E0153

Self-mode-selection of a 0.63μm laser with increased pressure in the discharge tube —E. G. Saprykin, R. N. Yudin and S. N. Atutov. **34**(4), 435–8 (Apr. 1973); CPM-7310E0397

Generation of two frequencies in a gas laser with nonlinear selective losses —A. P. Voitovich and A. Ya. Smirnov. **34**(5), 533–6 (May 1973); CPM-7311E0095

Spiked structure of stimulated emission pulses in rubidium vapor —F. A. Korolev, V. I. Atroshchenko, S. A. Bakhramov and V. I. Odintsov. **34**(5), 591–2 (May 1973); CPM-7311E0153

Collision broadening of the 1.53 μm line of mercury in an Hg–He, Hg–Ne mixture —K. A. Bikmikhametov, V. M. Klementev and V. P. Chebotaev. **34**(6), 616–7 (Jun. 1973); CPM-7311E0178

Measurement of the natural line width of a traveling-wave He-Ne laser in the 0.63-μ region —V. A. Zborovskii, M. I. Molchanov, A. A. Turkin and N. G. Yaroshenko. **34**(6), 704–5 (Jun. 1973); CPM-7311E0266

Longitudinal alignment of the lasing levels of a helium–neon laser — V. A. Polishchuk, G. Todorov, K. Khartung and M. P. Chaika. **34** (6), 709–11 (Jun. 1973); CPM-7311E0271

Statistical phenomena in the transient of a He–Ne laser with a given initial photon distribution —S. V. Bazhenov, V. E. Brazovskii and G. G. Telegin. **35**(1), 62–6 (Jul. 1973); CPM-7312F1820

The study of lasing spectra in the vibrational transitions of the CO molecule —A. V. Anokhin, S. V. Markova and G. G. Petrash. **35** (1), 94–5 (Jul. 1973); CPM-7312F1852

Four frequency structure of the CO_2 laser pulse —V. V. Berezovskii, Yu. A. Bykovskii, N. A. Blinov and A. N. Remizov. **35**(1), 98–100 (Jul. 1973); CPM-7312F1856

Simultaneous lasing on mercury and neon transitions in the composite gaseous mixture Hg–He–Ne —K. A. Bikmukhametov and V. M. Klementev. **35**(1), 105 (Jul. 1973); CPM-7312F1863

Measurement of gain distribution in the tube of a helium–neon laser ($\lambda = 0.63$ μm) under high-frequency excitation —V. A. Tsarkov and M. I. Molchanov. **35**(2), 191 (Aug. 1973); CPM-7312F0115

Copper vapor pulsed laser with a repetition frequency of 10 kHz —A. A. Isaev, M. A. Kazaryan and G. G. Petrash. **35**(3), 307–8 (Sep. 1973); CPM-7312F1583

Dispersion measurement in a d–c discharge in neon and helium–neon mixture at 0.63 μm and 1.15 μm —V. I. Vinogradov. **35**(4), 358–60 (Oct. 1973); CPM-7402D0100

Theory of the locking phenomenon in a gas ring laser. I —Yu. P. Gudkov and N. N. Rozanov. **35**(4), 426–31 (Oct. 1973); CPM-7402D0168

Some characteristics of frequency modulation of He–Ne laser emission ($\lambda = 6328$ Å) —V. V. Tuchin. **35**(4), 432–3 (Oct. 1973); CPM-7402D0174

Oscillations in the discharge gap of He–Ne laser and their effect on the emission parameters —Yu. G. Zakharenko and V. E. Privalov. **35**(4), 434–9 (Oct. 1973); CPM-7402D0176

Polarization of cw argon laser emission in a transverse magnetic field —A. E. Fotiadi and S. A. Fridrikhov. **35**(5), 556–7 (Nov. 1973); CPM-7403D0096

Nonreciprocity of oppositely traveling waves in a gas ring laser at $\lambda = 0.63$ μm by diaphragming —M. N. Burnashev and Yu. V. Filatov. **35**(5), 577–8 (Nov. 1973); CPM-7403D0117

6.30.50.30. Liquid Lasers and Masers

Continuous Frequency Tuning of a Laser of Mixed Dye Solution — Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **34**(1), 81–2 (Jan. 1973); CPM-7308D0105

Determination of the oxygen quenching constant for the triplet state of rhodamine 6G using lasing characteristics —T. S. Smolskaya, A. N. Rubinov and M. M. Asimov. **34**(2), 231–3 (Feb. 1973); CPM-7310E0193

Lasing characteristics of dye solutions in dispersive cavities under lamp pumping —I. G. Naumenko, A. M. Korobov and M. I. Dzyubenko. **34**(6), 683–5 (Jun. 1973); CPM-7311E0245

Stimulated lasing by solutions of anthracene derivatives —A. V. Aristov, V. A. Kuzin and A. S. Cherkasov. **35**(2), 192–4 (Aug. 1973); CPM-7312F0116

Quick-damping absorption in polymethine dyes induced by picosecond pulses of ruby-laser emission —A. N. Rubinov and I. M. Korda. **35**(2), 221–2 (Aug. 1973); CPM-7312F0145

Spectral-time characteristics of dye-solution lasing in pumping with a series of ultrashort pulses —B. S. Neporent, V. V. Kryukov, G. V. Lukomskii and V. B. Shilov. **35**(3), 309–11 (Sep. 1973); CPM-7312F1585

Spectral kinetics of the laser action in solutions of various organic substances —B. S. Neporent, V. B. Shilov and G. V. Lukomskii. **35**(3), 312–4 (Sep. 1973); CPM-7312F1588

Experimental study of the lasing characteristics of solutions of phthalimide substitutes with lamp pumping —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(5), 553–4 (Nov. 1973); CPM-7403D0093

Lasing of pyrilium perchlorate solutions by lamp pumping[1]) —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(6), 675–6 (Dec. 1973); CPM-7404E0093

6.30.50.40. Solid Lasers and Masers, Including Semiconducting and Glass

Special Features of Neodymium Glass Generation at a Wavelength of 0.92 μm —O. D. Gavrilov, A. A. Mak, D. S. Prilezhaev, V. I. Ustyugov and V. A. Fromzel. **34**(1), 77–80 (Jan. 1973); CPM-7308D0101

Electrooptical and piezoelectric tuning of a compound cavity of a semiconductor laser —P. G. Eliseev and A. V. Khaidarov. **34**(2), 194–5 (Feb. 1973); CPM-7310E0156

Low-frequency modulation of solid-state laser emission in axial mode-locking conditions —T. N. Zubarev, V. M. Martynov and Yu. A. Tarasov. **34**(4), 433–4 (Apr. 1973); CPM-7310E0395

Self-modulation mechanism of a ruby laser —M. M. Makogon and Yu. N. Ponomarev. **34**(4), 439–40 (Apr. 1973); CPM-7310E0401

Emission of a ruby laser under Co^{60} gamma radiation —M. R. Bedilov and K. Khaidarov. **34**(4), 441–2 (Apr. 1973); CPM-7310E0403

Measuring technique for parameter for losses in cavities of solid state lasers —M. G. Zuev, A. L. Shalyapin and F. F. Gavrilov. **34**(4), 459–60 (Apr. 1973); CPM-7310E0421

Two-frequency neodymium-activated glass laser —R. B. Andreev and V. D. Volosov. **34**(4), 468–9 (Apr. 1973); CPM-7310E0430

Distribution of short-lived color centers over a section of laser neodymium-glass rod —L. B. Glebov and M. N. Tolstoi. **34**(5), 572–3 (May 1973); CPM-7311E0134

Some characteristics of a cw solid-state ring laser —L. S. Kornienko, N. V. Kravtsov and A. N. Shelaev. **35**(4), 449 (Oct. 1973); CPM-7402D0191

6.30.50.50. Laser and Maser Resonators and Cavities

Three-Mode Oscillation in a Ring Laser —S. G. Zeiger. **34**(1), 72–6 (Jan. 1973); CPM-7308D0096

Investigation of the selective properties of open unstable cavities —G. N. Vinokurov, V. V. Lyubimov and I. B. Orlova. **34**(4), 427–32 (Apr. 1973); CPM-7310E0389

Measuring technique for parameter for losses in cavities of solid state lasers —M. G. Zuev, A. L. Shalyapin and F. F. Gavrilov. **34**(4), 459–60 (Apr. 1973); CPM-7310E0421

Theory of the locking phenomenon in a gas ring laser. I —Yu. P. Gudkov and N. N. Rozanov. **35**(4), 426–31 (Oct. 1973); CPM-7402D0168

Some characteristics of a cw solid-state ring laser —L. S. Kornienko, N. V. Kravtsov and A. N. Shelaev. **35**(4), 449 (Oct. 1973); CPM-7402D0191

Effect of the resonator lengths of coupled lasing channels on the interaction of standing waves —G. V. Melekhin. **35**(5), 571–2 (Nov. 1973); CPM-7403D0111

He–Ne laser with a nonlinear absorbing gas as delay line —V. I. Bobrik, Yu. D. Kolomnikov and V. P. Chebotaev. **35**(6), 682–3 (Dec. 1973); CPM-7404E0100

6.30.50.55. Laser and Maser Applications

Measurement of Linear Velocity of a Body by the Optical Doppler Effect —Yu. N. Dubnishchev, A. I. Lokhmatov, L. N. Koshcheev, A. A. Stolpovskii and E. N. Utkin. **34**(3), 335 (Mar. 1973); CPM-7310E0297

Reduction of additive-noise level in the output signal of a laser velocity meter —Yu. G. Vasilenko, Yu. N. Dubnishchev and E. N. Utkin. **35**(2), 212–3 (Aug. 1973); CPM-7312F0136

6.30.50.60. Instrumentation, Auxiliary Systems and Devices

Use of the sharp resonances in methane for He–Ne laser frequency stabalization at $\lambda = 3.39$ μ —S. N. Bagaev and A. K. Dmitriev. **34**(2), 191–3 (Feb. 1973); CPM-7310E0153

Electrooptical and piezoelectric tuning of a compound cavity of a semiconductor laser —P. G. Eliseev and A. V. Khaidarov. **34**(2), 194–5 (Feb. 1973); CPM-7310E0156

Absorption of He–Ne laser radiation by an iodine molecular beam —N. R. Batarchukova, Ts. I. Glozman and A. I. Kartashev. **34**(2), 233–4 (Feb. 1973); CPM-7310E0195

Generation of two frequencies in a gas laser with nonlinear selective losses —A. P. Voitovich and A. Ya. Smirnov. **34**(5), 533–6 (May 1973); CPM-7311E0095

Photomixing of the main and reference laser beams in the analysis of the frequency composition of laser radiation by optical heterodyning —V. I. Dubkov and B. A. Kiselev. **35**(2), 189–90 (Aug. 1973); CPM-7312F0113

Measurement of gain distribution in the tube of a helium–neon laser ($\lambda = 0.63$ μm) under high-frequency excitation —V. A. Tsarkov and M. I. Molchanov. **35**(2), 191 (Aug. 1973); CPM-7312F0115

Reduction of additive-noise level in the output signal of a laser velocity meter —Yu. G. Vasilenko, Yu. N. Dubnishchev and E. N. Utkin. **35**(2), 212–3 (Aug. 1973); CPM-7312F0136

Measurement of the saturation parameter of a neon–helium mixture at the 3.39-μ wavelength —I. P. Mazanko, N.–D. D. Ogurok and M. V. Sviridov. **35**(3), 327–8 (Sep. 1973); CPM-7312F1603

Oscillations in the discharge gap of He–Ne laser and their effect on the emission parameters —Yu. G. Zakharenko and V. E. Privalov. **35**(4), 434–9 (Oct. 1973); CPM-7402D0176

6.30.50.90. Other Topics in Lasers and Masers

Holographic Method for Measuring Spatial Coherence Functions —D. I. Staselko, V. B. Voronin and A. G. Smirnov. **34**(3), 320–3 (Mar. 1973); CPM-7310E0282

Gain of a laser amplifier in regenerative and super-regenerative modes —A. A. Mak, V. I. Ustyugov and V. A. Fromzel. **35**(5), 528–31 (Nov. 1973); CPM-7403D0068

Effect of simultaneous spatial and temporal modulation of a laser wave on parametric amplification —A. P. Sukhorukov and A. K. Shchednova. **35**(5), 537–9 (Nov. 1973); CPM-7403D0077

Observation of satellites to the resonance transitions of H– and He–like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

6.30.60. Nonlinear Optics

6.30.60.10. General

Theory of image conversion in nonlinear optical systems —A. V. Gainer, G. V. Krivoshchekov and R. I. Sokolovskii. **34**(2), 225–6 (Feb. 1973); CPM-7310E0187

Measurement of the frequency correlation function of an intense frequency-modulated field —L. D. Zusman and A. I. Burshtein. **34**(4), 476–7 (Apr. 1973); CPM-7310E0438

Conservation laws in processes of nonlinear transformations of light —E. G. Bashkanskii and V. V. Mityugov. **35**(2), 183–5 (Aug. 1973); CPM-7312F0107

Scattering of strong polarized waves by a two-level atom —V. M. Arutyunyan, E. G. Kanetsyan and V. O. Chaltykyan. **35**(2), 186–8 (Aug. 1973); CPM-7312F0110

Linear susceptibility of a three-level system in an intense nonmonochromatic radiation field —S. G. Przhibelskii. **35**(4), 415–7 (Oct. 1973); CPM-7402D0157

Dynamics of clearing a low-absorbing turbid medium in an intense light field —V. I. Bukatii, Yu. D. Kopytin, M. M. Krekova and G. M. Krekov. **35**(4), 418–9 (Oct. 1973); CPM-7402D0160

Self-constriction of spherically symmetric pulses in a nonlinear medium —A. A. Kolokolov and G. V. Skrotskii. **35**(5), 520–1 (Nov. 1973); CPM-7403D0060

Nonlinear interaction of intersecting light beams in a gas —R. I. Sokolovskii. **35**(5), 563–4 (Nov. 1973); CPM-7403D0103

6.30.60.20. Stimulated Raman, Parametric Oscillations, etc.

Stimulated Raman scattering of phase-modulated light pulses —A. P. Sukhorukov and A. K. Shchednova. **34**(2), 198–200 (Feb. 1973); CPM-7310E0160

Scattering of light by coherent systems —O. N. Godomskii and V. R. Nagibarov. **34**(2), 218–20 (Feb. 1973); CPM-7310E0180

Effect of Parameters of Spontaneous Raman Lines on the Spectral Composition of Stimulated Raman Scattering —I. I. Kondilenko, P. A. Korotkov, V. I. Malyi and N. G. Golubeva. **34**(3), 271–3 (Mar. 1973); CPM-7310E0233

Dichroism in stimulated-Raman-scattering spectra in crystals —A. M. Panarin and V. L. Strizhevskii. **34**(6), 659–60 (Jun. 1973); CPM-7311E0221

Stimulated Raman scattering in gypsum —M. A. Kazhlaev, B. M. Ataev and M. I.-A. Shtanchaev. **34**(6), 661 (Jun. 1973); CPM-7311E0223

Optics of crystals with an Hermitian dielectric tensor —L. M. Barkovskii. **34**(6), 692–4 (Jun. 1973); CPM-7311E0254

Self–absorption in stimulated Raman spectra —I. I. Kondilenko, P. A. Korotkov and V. I. Malyi. **34**(6), 716–7 (Jun. 1973); CPM-7311E0278

High–efficiency scheme of intracavity generation of harmonics and parametric oscillation —V. D. Volosov and V. N. Krylov. **35**(1), 69–71 (Jul. 1973); CPM-7312F1827

Effect of simultaneous spatial and temporoal modulation of a laser wave on parametric amplification —A. P. Sukhorukov and A. K. Shchednova. **35**(5), 537–9 (Nov. 1973); CPM-7403D0077

6.30.60.30. Harmonic Generation

Laser Second Harmonic Generation in Organic Crystals —V. D. Shigorin and G. P. Shipulo. **34**(1), 83–6 (Jan. 1973); CPM-7308D0107

Nonlinear susceptibilities of atomic hydrogen —N. L. Manakov, M. A. Preobrazhenskii and L. P. Rapoport. **35**(1), 14–6 (Jul. 1973); CPM-7312F1772

High–efficiency scheme of intracavity generation of harmonics and parametric oscillation —V. D. Volosov and V. N. Krylov. **35**(1), 69–71 (Jul. 1973); CPM-7312F1827

Generation of the second optical harmonic in a lithium iodate crystal under (oee) wave interaction —A. G. Kalintsev, V. D. Volosov and R. B. Andreev. **35**(1), 96 (Jul. 1973); CPM-7312F1854

6.30.60.90. Other Topics in Nonlinear Optics

Nature of the absorption bands and the origin of the high nonlinear dielectric susceptibility of molecular crystals —B. L. Davydov, V. V. Dunina, V. F. Zolin and L. G. Koreneva. **34**(2), 150–3 (Feb. 1973); CPM-7310E0112

Internal field in a liquid and polarizabilities of interacting molecules. Limiting case of a strong external field —O. G. Bokov. **34**(4), 401–3 (Apr. 1973); CPM-7310E0363

Resonance interaction of strong oppositely traveling waves in a gas — E. V. Baklanov. **34**(6), 711–2 (Jun. 1973); CPM-7311E0273

Multiquantum absorption of light by conduction electrons in extrinsic semiconductors —V. L. Malevich and E. M. Epshtein. **35**(3), 346–7 (Sep. 1973); CPM-7312F1622

Anisotropy of a nonlinear refractive index in acentric crystals: linear electrooptic effect —Yu. V. Shaldin and D. A. Belogurov. **35**(4), 403–7 (Oct. 1973); CPM-7402D0145

Statistical phenomena in many–photon processes —F. A. Vorobev and R. I. Sokolovskii. **35**(4), 452–3 (Oct. 1973); CPM-7402D0194

Formulas for probabilities of two–photon electronic–vibrational transitions —M. V. Priyutov and S. K. Potapov. **35**(5), 552–3 (Nov. 1973); CPM-7403D0092

Polaron superradiation —V. V. Samartsev and Z. M. Kaveeva. **35**(5), 560–1 (Nov. 1973); CPM-7403D0100

Value of the gain for light internally reflected from a medium with inverted population —S. A. Lebedev, V. M. Volkov and B. Ya. Kogan. **35**(5), 565–6 (Nov. 1973); CPM-7403D0105

Effect of matrix disorder on anti–Stokes luminescence of Er^{3+} —M. S. Orlov, I. G. Saitkulov and A. L. Stolov. **35**(5), 568–70 (Nov. 1973); CPM-7403D0108

Amplication and induced absorption in solutions of organic luminophors —A. V. Aristov and Yu. S. Maslyukov. **35**(6), 660–1 (Dec. 1973); CPM-7404E0078

He–Ne laser with a nonlinear absorbing gas as delay line —V. I. Bobrik, Yu. D. Kolomnikov and V. P. Chebotaev. **35**(6), 682–3 (Dec. 1973); CPM-7404E0100

6.30.70. Optical Information Theory and Image Processing

6.30.70.20. Fourier Transform Optics

Correlation method of attenuating the effect of random multiplicative noise in Fourier spectroscopy —S. M. Gorskii and V. P. Lebedev. **35**(5), 544–6 (Nov. 1973); CPM-7403D0084

Use of Fourier transforms in the determination of Voigt profile components —V. N. Ivanov and I. S. Fishman. **35**(6), 679–81 (Dec. 1973); CPM-7404E0097

6.30.70.45. Image Processing and Restoration

Reduction in zero–order background light in optical signal processing systems —V. I. Yakovlev and T. N. Sergeenko. **35**(3), 321–2 (Sep. 1973); CPM-7312F1597

Two–channel scheme for recording the spectrum of radiation intensity fluctuations —E. B. Aleksandrov and V. N. Kulyasov. **35**(3), 330–1 (Sep. 1973); CPM-7312F1606

6.30.70.90. Other Topics in Optical Information Theory

Complete measuring process in optical systems. II —Yu. E. Dukarevich. **35**(5), 540–3 (Nov. 1973); CPM-7403D0080

Elimination of apparatus distortion of a spectral line profile by the statistical regularization method —N. G. Preobrazhenskii and B. Z. Tambovtsev. **35**(5), 547–50 (Nov. 1973); CPM-7403D0087

6.30.75. Holography

6.30.75.10. General and Theoretical

Holographic recording without a reference wave —Sh. D. Kakichashvili. **34**(5), 537–8 (May 1973); CPM-7311E0099

Polarization contrast method in holography —I. A. Deryugin, V. N. Kurashov, D. V. Podanchuk and Yu. V. Khoroshkov. **35**(2), 195–9 (Aug. 1973); CPM-7312F0119

6.30.75.20. Image Characteristics and Wave–Front Reconstruction

Sensitivity and resolution in holographic interferometry of focused images —I. S. Klimenko, E. I. Kucheryavenko and E. G. Matinyan. **34**(2), 203–5 (Feb. 1973); CPM-7310E0165

Holographic recording of three–dimensional ensembles of fast–moving particles —D. I. Staselko and V. A. Kosnikovskii. **34**(2), 206–10 (Feb. 1973); CPM-7310E0168

Quasi–Holographic Scheme for Scientific Photography —D. A. Novik. **34**(3), 316–9 (Mar. 1973); CPM-7310E0278

Effect of hologram aberrations on image quality —G. N. Buinov, R. K. Gizatullin and K. S. Mustafin. **34**(4), 443–6 (Apr. 1973); CPM-7310E0405

Properties of nonlinear recording of focused–image holograms —I. S. Klimenko, E. G. Matinyan and G. V. Skrotskii. **34**(4), 474–5 (Apr. 1973); CPM-7310E0436

Possibility of using uniaxial holograms for image multiplication —G. N. Buinov and K. S. Mustafin. **34**(5), 539–41 (May 1973); CPM-7311E0101

Properties of thin–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **34**(6), 695–7 (Jun. 1973); CPM-7311E0257

Nonlinear distortions of a holographic image —I. Ya. Brusin. **34**(6), 698–701 (Jun. 1973); CPM-7311E0260

Elimination of a fundamental drawback of two–dimensional holograms —E. I. Krupitskii and I. S. Barbanel. **35**(1), 72–4 (Jul. 1973); CPM-7312F1830

Study of the properties of thick–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **35**(1), 75–6 (Jul. 1973); CPM-7312F1833

Elimination of diffraction orders from synthesized binary holograms —L. Sh. Egiazaryan, S. Kh. Oganesyan, B. E. Khaikin and V. S. Khitrova. **35**(4), 444–5 (Oct. 1973); CPM-7402D0186

Enhancement of axial brightness of lases beams by holographic phase correction —M. D. Bondarenko and M. S. Soskin. **35**(6), 665–7 (Dec. 1973); CPM-7404E0083

6.30.75.30. Photographic Problems

Recording volume holograms on photochromic glass using the optical bleaching process. Part 1 —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(2), 201–2 (Feb. 1973); CPM-7310E0163

Quasi–Holographic Scheme for Scientific Photography —D. A. Novik. **34**(3), 316–9 (Mar. 1973); CPM-7310E0278

Recording Volume Holograms on Photochromic Glass Using the Optical Bleaching Process —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(3), 324–6 (Mar. 1973); CPM-7310E0286

Effects of photomaterial noise on the resolving power of a holographic image —I. Ya. Brusin. **34**(4), 447–50 (Apr. 1973); CPM-7310E0409

Properties of nonlinear recording of focused–image holograms —I. S. Klimenko, E. G. Matinyan and G. V. Skrotskii. **34**(4), 474–5 (Apr. 1973); CPM-7310E0436

Properties of thin-film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **34**(6), 695–7 (Jun. 1973); CPM-7311E0257

Study of the properties of thick-film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **35**(1), 75–6 (Jul. 1973); CPM-7312F1833

Improvement of image quality in observation through scattering media —A. D. Galpern. **35**(1), 81–3 (Jul. 1973); CPM-7312F1839

Some properties of the quasi-holographic method in scientific photography —D. A. Novik. **35**(3), 318–20 (Sep. 1973); CPM-7312F1594

6.30.75.40. Applications

Holographic recording of three-dimensional ensembles of fast-moving particles —D. I. Staselko and V. A. Kosnikovskii. **34**(2), 206–10 (Feb. 1973); CPM-7310E0168

Holographic Method for Measuring Spatial Coherence Functions —D. I. Staselko, V. B. Voronin and A. G. Smirnov. **34**(3), 320–3 (Mar. 1973); CPM-7310E0282

Holographic spectroscopy of ultrahigh resolution —M. L. Gurari, G. I. Rukman and V. K. Sakharov. **34**(6), 715–6 (Jun. 1973); CPM-7311E0277

6.30.75.90. Other Topics in Holography

Self-diffraction of coherent radiation interacting with transparent substances —A. S. Rubanov and E. V. Ivakin. **34**(6), 686–8 (Jun. 1973); CPM-7311E0248

6.30.80. Image Formation

6.30.80.10. General

Experiments to improve image quality —L. A. Khalfin, T. A. Pavlichuk and M. Ya. Shulman. **35**(4), 443–4 (Oct. 1973); CPM-7402D0185

6.30.80.30. Aberrations

Chromatic aberrations of real rays —D. Yu. Galpern and O. V. Pronina. **34**(2), 211–4 (Feb. 1973); CPM-7310E0173

Effect of hologram aberrations on image quality —G. N. Buinov, R. K. Gizatullin and K. S. Mustafin. **34**(4), 443–6 (Apr. 1973); CPM-7310E0405

6.30.80.40. Resolution

Effect of hologram aberrations on image quality —G. N. Buinov, R. K. Gizatullin and K. S. Mustafin. **34**(4), 443–6 (Apr. 1973); CPM-7310E0405

Completeness of a measuring process in optical systems —Yu. E. Dukarevich. **34**(4), 451–3 (Apr. 1973); CPM-7310E0413

Resolving power of a sinusoidal Fresnel zone plate —A. L. Dmitriev. **34**(5), 566–8 (May 1973); CPM-7311E0128

6.30.85. Instrumental Optics and Related Techniques

6.30.85.10. General

Complete measuring process in optical systems. Part I —Yu. E. Dukarevich. **35**(4), 408–10 (Oct. 1973); CPM-7402D0150

6.30.85.15. Sources and Standards

Calculation of radiative properties of xenon pulsed light sources from energy balance —K. Günther. **34**(6), 620–3 (Jun. 1973); CPM-7311E0182

6.30.85.20. Lens and Mirror Systems

Image contrast in a microscope with synchronous scanning of the object by point or raster field diaphragms —G. M. Svishchev. **34** (2), 221–4 (Feb. 1973); CPM-7310E0183

Completeness of a measuring process in optical systems —Yu. E. Dukarevich. **34**(4), 451–3 (Apr. 1973); CPM-7310E0413

Effect of fiberglass on the frequency-contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416

Distortion and phase-frequency characteristics of objectives —K. G. Predko and A. I. Grodnikov. **34**(5), 569–71 (May 1973); CPM-7311E0131

6.30.85.25. Colorimetry

Measurement of electron-impact excitation cross sections for Kr-11 and Kr-111 lines —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(6), 600–2 (Dec. 1973); CPM-7404E0018

6.30.85.30. Photometers and Photometry

Contribution to the theory of an optical micropyrometer —A. V. Kogan. **35**(3), 323–5 (Sep. 1973); CPM-7312F1599

6.30.85.35. Spectrometers and Spectroscopy

Nonlinear Controlled-Dispersion Spectrograph —R. B. Andreev, V. D. Volosov and A. G. Kalintsev. **34**(1), 102–3 (Jan. 1973); CPM-7308D0126

Calculation of the constants of an infinitely narrow beam in spectral instruments —V. E. Medvedev. **34**(2), 215–7 (Feb. 1973); CPM-7310E0177

Identifying spectrograms from a Fabry-Perot spectrometer —V. P. Kochanov and E. G. Saprykin. **34**(5), 579–81 (May 1973); CPM-7311E0141

Holographic spectroscopy of ultrahigh resolution —M. L. Gurari, G. I. Rukman and V. K. Sakharov. **34**(6), 715–6 (Jun. 1973); CPM-7311E0277

6.30.85.40. Interferometers and Interferometry

Sensitivity and resolution in holographic interferometry of focused images —I. S. Klimenko, E. I. Kucheryavenko and E. G. Matinyan. **34**(2), 203–5 (Feb. 1973); CPM-7310E0165

Correction of fringe curvature in a polarization Wollaston-prism interferometer —V. A. Komissaruk and V. I. Yanichkin. **34**(2), 238–9 (Feb. 1973); CPM-7310E0200

Identifying spectrograms from a Fabry-Perot spectrometer —V. P. Kochanov and E. G. Saprykin. **34**(5), 579–81 (May 1973); CPM-7311E0141

Optimum parameters of a Fabry-Perot interferometer in studies of the Voigt contour using Fourier interferogram coefficients —A. G. Velichko, M. L. Kats and V. I. Tsoi. **35**(4), 440–2 (Oct. 1973); CPM-7402D0182

A modification of the Jamin interferometer —Yu. G. Kozlov, G. A. Plekhotkin and A. M. Shukhtin. **35**(4), 453–4 (Oct. 1973); CPM-7402D0195

Role of optically transparent walls in the interferometric method of studying a plasma —A. A. Bakeev, T. P. Narozhnaya and R. E. Rovinskii. **35**(4), 460 (Oct. 1973); CPM-7402D0202

Rozhdestvenskii interference apparatus with an attachment which includes an image converter —G. A. Plekhotkin and A. M. Shukhtin. **35**(5), 567–8 (Nov. 1973); CPM-7403D0107

6.30.85.45. Light-Sensitive Materials

Recording volume holograms on photochromic glass using the optical bleaching process. Part 1 —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(2), 201–2 (Feb. 1973); CPM-7310E0163

Quasi-Holographic Scheme for Scientific Photography —D. A. Novik. **34**(3), 316–9 (Mar. 1973); CPM-7310E0278

Recording Volume Holograms on Photochromic Glass Using the Optical Bleaching Process —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(3), 324–6 (Mar. 1973); CPM-7310E0286

6.30.85.50. Spatial Filters and Zone Plates

Holographic Method for Measuring Spatial Coherence Functions —D. I. Staselko, V. B. Voronin and A. G. Smirnov. **34**(3), 320–3 (Mar. 1973); CPM-7310E0282

Resolving power of a sinusoidal Fresnel zone plate —A. L. Dmitriev. **34**(5), 566–8 (May 1973); CPM-7311E0128

Complete measuring process in optical systems. Part I —Yu. E. Dukarevich. **35**(4), 408–10 (Oct. 1973); CPM-7402D0150

6.30.85.55. Spectral Filters

Antireflection coating of a cutoff filter at a given spectral point —G. P. Konyukhov and E. A. Nesmelov. **34**(5), 562–5 (May 1973); CPM-7311E0124

Effect of absorbed moisture on the position of the passband of narrow-band interference filters —I. N. Shklyarevskii, R. I. Umerov, E. A. Lupashko and V. I. Khramtsova. **35**(2), 206–8 (Aug. 1973); CPM-7312F0130
Optical properties of special narrow-band interference filters for the infrared spectral region —I. N. Shklyarevskii, R. I. Umerov, M. A. Gisin and E. E. Sitnikov. **35**(4), 447–8 (Oct. 1973); CPM-7402D0189

6.30.85.60. Polarizers and Polarimetry

Investigation of the State of Polarization of Light Using the Rotating Birefringent Compensator Method —V. A. Zamkov. **34**(1), 92–4 (Jan. 1973); CPM-7308D0116
Ellipsometry based on a convergent light beam —K. K. Svitashev, A. I. Semenenko, L. V. Semenenko and V. K. Sokolov. **34**(5), 542–4 (May 1973); CPM-7311E0104

6.30.85.65. Fiber Optics

Microcontrast of Fiber Optics Elements —D. K. Sattarov, A. A. Lunkina and G. Ya. Konaeva. **34**(1), 95–7 (Jan. 1973); CPM-7308D0119
Three-Ring Effect in Flexible Fiber Optics Bundles —G. Ya. Konaeva, D. K. Sattarov, T. D. Kulda and I. P. Gryaznova. **34**(1), 98–100 (Jan. 1973); CPM-7308D0122
Effect of fiberglass on the frequency-contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416
Noise in fiber-optics elements —A. A. Lunkina and D. K. Sattarov. **35**(1), 84–7 (Jul. 1973); CPM-7312F1842

6.30.85.70. Detectors

Field and Loss Properties in a Three-Mirror Ring Optical Resonator with a Gaussian Diaphragm —V. F. Boitsov and T. A. Murina. **34** (3), 327–30 (Mar. 1973); CPM-7310E0289
Coupling of Traveling Waves in a Ring Resonator with a Local Inhomogeneity —S. G. Zeiger. **34**(3), 331–4 (Mar. 1973); CPM-7310E0293

6.30.85.80. Light Modulators

Gain of a laser amplifier in regenerative and super-regenerative modes —A. A. Mak, V. I. Ustyugov and V. A. Fromzel. **35**(5), 528–31 (Nov. 1973); CPM-7403D0068

6.30.85.90. Other Topics in Instrumental Optics

Optical Method for Measuring Directivity Characteristics of Planar Acoustical Radiators —N. R. Kukhar. **34**(1), 103–4 (Jan. 1973); CPM-7308D0127
Investigation of gelatin film optical microwaveguides —L. N. Deryugin and T. K. Chekhlova. **35**(2), 209–11 (Aug. 1973); CPM-7312F0133
Concave diffraction gratings on aspherical surfaces with one plane of symmetry —S. A. Strezhnev and A. I. Andreeva. **35**(5), 572–4 (Nov. 1973); CPM-7403D0112

6.40. GEOPHYSICS

Estimation of the boundaries of a size spectrum and selection of wavelengths for optical sounding of an atmospheric aerosol —I. E. Naats. **35**(5), 558–60 (Nov. 1973); CPM-7403D0098
Autocorrelation function of doubly scattered radiation —A. P. Ivanov, A. Ya. Khairullina and A. P. Chaikovskii. **35**(6), 668–71 (Dec. 1973); CPM-7404E0086

6.50. BIOPHYSICS

Induced optical activity of dye dimer–deoxyribonucleic acid complexes —V. I. Permogorov. **34**(2), 168–71 (Feb. 1973); CPM-7310E0130

AUTHOR INDEX TO VOLUMES 34-35

Papers are arranged in ascending page number order.

A

Abramov, V. S.—Superradiative state and echo from coherent quasi-particules in semiconductors in an interband transition —V. S. Abramov and U. Kh. Kopvillem. **35**(6), 662–4 (Dec. 1973); CPM-7404E0080

Adrianova, I. I.—Relaxation nature of the electrooptical effect in lead–magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, Z. V. Nesterova and Yu. V. Popov. **34**(2), 228–9 (Feb. 1973); CPM-7310E0190

Adrianova, I. I.—Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

Adzerikho, K. S.—Description of polarized multipole luminescence —K. S. Adzerikho and A. Ya. Silenko. **34**(5), 525–6 (May 1973); CPM-7311E0087

Afanasev, N. V.—Mechanism of recombination in helium —N. V. Afanasev, G. N. Gerasimov and G. P. Startseva. **34**(4), 382–4 (Apr. 1973); CPM-7310E0344

Aglitskii, E. V.—Observation of satellites to the resonance transitions of H- and He-like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

Agrest, M. M.—Influence of Brownian motion on intermolecular energy transfer as a function of the shape and relative position of the spectra —M. S. Mikhelashvili and M. M. Agrest. **35**(6), 636–7 (Dec. 1973); CPM-7404E0054

Aizentson, A. E.—Population balance of long-lived excited states in a gas discharge —A. E. Aizentson. **35**(1), 103–4 (Jul. 1973); CPM-7312F1861

Akhunov, T. F.—Infrared spectra and hydrogen bonds of hydroxyls of chlorosubstituted phenols. IV. effect of temperature on the spectra of liquid and solid phases —I. S. Perelygin and T. F. Akhunov. **34**(5), 512–3 (May 1973); CPM-7311E0074

Akopyan, M. E.—Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov and M. E. Akopyan. **34**(5), 501–2 (May 1973); CPM-7311E0063

Akopyan, M. E.—Photoionization processes in molecular iodine —M. E. Akopyan, F. I. Vilesov and Yu. L. Sergeev. **35**(5), 472–5 (Nov. 1973); CPM-7403D0012

Akopyan, S. Kh.—Influence of intermolecular interactions on the vibrational spectra of molecules, X. Intensities of the infrared absorption bands of H_2O and SO_2 molecules —S. Kh. Akopyan, O. P. Girin, A. M. Kokushkin and N. G. Bakhshiev. **34**(2), 147–9 (Feb. 1973); CPM-7310E0109

Alekhin, A. D.—Ratio of the fine-structure components in a Rayleigh line near the critical point —A. D. Alekhin and A. V. Chalyi. **34**(5), 552–4 (May 1973); CPM-7311E0114

Aleksakhin, I. S.—Electron-impact excitation of alkaline earth atoms. 1. magnesium —I. S. Aleksakhin, I. P. Zapesochnyi, I. I. Garga and V. P. Starodub. **34**(6), 611–5 (Jun. 1973); CPM-7311E0173

Aleksakhin, I. S.—Fine structure in excitation functions of cesium beyond the ionization threshold —E. N. Postoi, I. S. Aleksakhin and I. P. Zapesochnyi. **35**(2), 223–4 (Aug. 1973); CPM-7312F0147

–Electron-impact excitation of alkaline earth atoms. Part 2: Strontium singlets–V. P. Starodub, I. S. Aleksakhin, I. I. Garga and I. P. Zapesochnyi. **35**(6), 603–6 (Dec. 1973); CPM-7404E0021

Aleksandrov, A. P.—Transformation Properties of the Coriolis Coupling Constants of Polyatomic Molecules —A. P. Aleksandrov. **34**(1), 33–4 (Jan. 1973); CPM-7308D0057

Aleksandrov, E. B.—Optical pumping of hyperfine sublevels of the $4^2S_{1/2}$ state of potassium —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **34**(6), 707–8 (Jun. 1973); CPM-7311E0269

Aleksandrov, E. B.—Frequency shifts in a hyperfine transition in potassium produced by various buffer gases —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **35**(1), 93–4 (Jul. 1973); CPM-7312F1851

—Double resonance of the $5d[7/2]_4$ state of the Xe^{136} isotope —E. B. Aleksandrov and V. N. Kulyasov. **35**(2), 220–1 (Aug. 1973); CPM-7312F0144

—Two-channel scheme for recording the spectrum of radiation intensity fluctuations —E. B. Aleksandrov and V. N. Kulyasov. **35**(3), 330–1 (Sep. 1973); CPM-7312F1606

Aleksandrov, I. V.—Resonance Raman scattering by liquid solutions of molecular ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov and A. N. Sidorov. **35**(2), 154–7 (Aug. 1973); CPM-7312F0078

Aleksandrov, V. Ya.—Recombination Emission of an Argon Plasma above the Cutoff Frequency —V. Ya. Aleksandrov, D. B. Gurevich and I. V. Podmoshenskii. **34**(1), 12–3 (Jan. 1973); CPM-7308D0036

—Diagnostics of a nonequilibrium Cd–He arc plasma —V. Ya. Aleksandrov, N. S. Gruzdeva, D. B. Gurevich and I. V. Podmoshenskii. **34**(5), 494–7 (May 1973); CPM-7311E0056

Aleksanyan, V. T.—New relations between the vibrational–rotational interaction constants of polyatomic molecules —M. R. Aliev and V. T. Aleksanyan. **35**(6), 676–7 (Dec. 1973); CPM-7404E0094

Aleshonkova, Yu. A.—Calculation of the Coriolis Coupling Constants of $XH(Hal)_3$ Molecules (X=C, Si) —V. S. Timoshinin, Yu. A. Aleshonkova and I. N. Godnev. **34**(1), 115–6 (Jan. 1973); CPM-7308D0139

Alfimov, M. V.—Radioluminescence of Toluene Solid Solutions —I. A. Lisovskaya and M. V. Alfimov. **34**(3), 353–4 (Mar. 1973); CPM-7310E0315

Alfimov, M. V.—Singlet–doublet and triplet–doublet inductive–resonance energy transfer —I. A. Lisovskaya, V. G. Plotnikov and M. V. Alfimov. **35**(6), 634–5 (Dec. 1973); CPM-7404E0052

Aliev, M. R.—Rotational spectra of nonpolar molecules —M. R. Aliev and V. M. Mikhailov. **35**(2), 147–51 (Aug. 1973); CPM-7312F0071

—New relations between the vibrational–rotational interaction constants of polyatomic molecules —M. R. Aliev and V. T. Aleksanyan. **35**(6), 676–7 (Dec. 1973); CPM-7404E0094

Alikhanova, Z. M.—Optical activity of a thallium–uranyl–propionate crystal —Z. M. Alikhanova, V. I. Burkov, V. A. Kizel, Yu. I. Krasilov, V. A. Madii and G. M. Safronov. **34**(5), 573–4 (May 1973); CPM-7311E0135

Andreeshchev, E. A.—Quenching of anthracene fluorescence by carbon tetrachloride —E. A. Andreeshchev, V. S. Viktorova, S. F. Kilin and I. M. Rozman. **34**(5), 530–2 (May 1973); CPM-7311E0092

Andreev, E. A.—Determination of the Potential of Interatomic Interaction from the Parameters of Satellite Bands of Spectral Lines —E. A. Andreev. **34**(3), 346–7 (Mar. 1973); CPM-7310E0308

Andreev, R. B.—Nonlinear Controlled-Dispersion Spectrograph —R. B. Andreev, V. D. Volosov and A. G. Kalintsev. **34**(1), 102–3 (Jan. 1973); CPM-7308D0126

—Two-frequency neodymium-activated glass laser —R. B. Andreev and V. D. Volosov. **34**(4), 468–9 (Apr. 1973); CPM-7310E0430

Andreev, R. B.—Generation of the second optical harmonic in a lithium iodate crystal under (oee) wave interaction —A. G. Kalintsev, V. D. Volosov and R. B. Andreev. **35**(1), 96 (Jul. 1973); CPM-7312F1854

Andreeva, A. I.—Concave diffraction gratings on aspherical surfaces with one plane of symmetry —S. A. Strezhnev and A. I. Andreeva. **35**(5), 572–4 (Nov. 1973); CPM-7403D0112

Anisimov, V. Ya.—Asymptotic Behavior of Degrees of Higher Order Coherence —V. Ya. Anisimov. **34**(3), 336 (Mar. 1973); CPM-7310E0298

Anisimov, V. Ya.—Degree of coherence of scattered light —B. A. Sotskii and V. Ya. Anisimov. **35**(3), 341 (Sep. 1973); CPM-7312F1617

Anokhin, A. V.—The study of lasing spectra in the vibrational transitions of the CO molecule —A. V. Anokhin, S. V. Markova and G. G. Petrash. **35**(1), 94–5 (Jul. 1973); CPM-7312F1852

Antipenko, B. M.—Transformation of neodymium-laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

Apanasevich, P. A.—Theory of the susceptibility of quantum systems with degenerate levels —P. A. Apanasevich, B. D. Fainberg and B. A. Kiselev. **34**(2), 117–9 (Feb. 1973); CPM-7310E0079

Aristov, A. V.—Stimulated lasing by solutions of anthracene derivatives —A. V. Aristov, V. A. Kuzin and A. S. Cherkasov. **35**(2), 192–4 (Aug. 1973); CPM-7312F0116

—Amplication and induced absorption in solutions of organic luminophors —A. V. Aristov and Yu. S. Maslyukov. **35**(6), 660–1 (Dec. 1973); CPM-7404E0078

Arkhipenko, D. K.—Raman spectrum of a single crystal of apatite —D. K. Arkhipenko, B. A. Orekhov and R. G. Knubovets. **34**(4), 425–6 (Apr. 1973); CPM-7310E0387

Artamonov, O. M.—Induced polarization of adsorbed molecules in an intensive light field —O. M. Artamonov and Yu. I. Asalkhanov. **35**(5), 518–9 (Nov. 1973); CPM-7403D0058

Arutyunyan, V. M.—Scattering of strong polarized waves by a two-level atom —V. M. Arutyunyan, E. G. Kanetsyan and V. O. Chaltykyan. **35**(2), 186–8 (Aug. 1973); CPM-7312F0110

Asalkhanov, Yu. I.—Induced polarization of adsorbed molecules in an intensive light field —O. M. Artamonov and Yu. I. Asalkhanov. **35**(5), 518–9 (Nov. 1973); CPM-7403D0058

Ashcheulov, Yu. V.—Recording volume holograms on photochromic glass using the optical bleaching process. Part 1 —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(2), 201–2 (Feb. 1973); CPM-7310E0163

—Recording Volume Holograms on Photochromic Glass Using the Optical Bleaching Process —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(3), 324–6 (Mar. 1973); CPM-7310E0286

Asimov, M. M.—Determination of the oxygen quenching constant for the triplet state of rhodamine 6G using lasing characteristics —T. S. Smolskaya, A. N. Rubinov and M. M. Asimov. **34**(2), 231–3 (Feb. 1973); CPM-7310E0193

Asmaryan, E. A.—Theory of Spectral Line Broadening by Electrons in a Nonequilibrium Plasma —E. A. Asmaryan and Yu. L. Klimontovich. **34**(1), 111–2 (Jan. 1973); CPM-7308D0135

Ataev, B. M.—Stimulated Raman scattering in gypsum —M. A. Kazhlaev, B. M. Ataev and M. I.-A. Shtanchaev. **34**(6), 661 (Jun. 1973); CPM-7311E0223

Atroshchenko, V. I.—Spiked structure of stimulated emission pulses in rubidium vapor —F. A. Korolev, V. I. Atroshchenko, S. A. Bakhramov and V. I. Odintsov. **34**(5), 591–2 (May 1973); CPM-7311E0153

Atutov, S. N.—Self-mode-selection of a 0.63μm laser with increased pressure in the discharge tube —E. G. Saprykin, R. N. Yudin and S. N. Atutov. **34**(4), 435–8 (Apr. 1973); CPM-7310E0397

Avdonin, V. P.—Sodium color centers in potassium bromide crystals —V. P. Avdonin, A. F. Nechaev and B. T. Plachenov. **35**(4), 379–81 (Oct. 1973); CPM-7402D0121

B

Babkov, L. M.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

—Out-of-Plane Vibrations of Perylene —L. M. Babkov, M. A. Kovner and V. B. Rents. **34**(3), 354–5 (Mar. 1973); CPM-7310E0316

Babkov, L. M.—Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

—Out-of-plane vibrations of the coronene molecule —L. M. Babkov and M. A. Kovner. **35**(2), 214 (Aug. 1973); CPM-7312F0138

Bagaev, S. A.—Quenching collisions in helium observed during the decay of the n^1S_0 and n^3S_1 states —G. S. Kvater, O. V. Oginets, V. B. Smirnov and S. A. Bagaev. **35**(2), 226–7 (Aug. 1973); CPM-7312F0150

Bagaev, S. N.—Use of the sharp resonances in methane for He–Ne laser frequency stabalization at $\lambda = 3.39\ \mu$ —S. N. Bagaev and A. K. Dmitriev. **34**(2), 191–3 (Feb. 1973); CPM-7310E0153

Bagdanskis, N. I.—Diffuse phase transition in crystalline phenanthrene according to ir absorption spectra —G. N. Zhizhin and N. I. Bagdanskis. **34**(6), 669–70 (Jun. 1973); CPM-7311E0231

Bagdasarov, Kh. S.—Temperature dependence of ir absorption in fused quartz at high temperatures —L. V. Prikhodko and Kh. S. Bagdasarov. **34**(6), 702 (Jun. 1973); CPM-7311E0264

Bakeev, A. A.—Role of optically transparent walls in the interferometric method of studying a plasma —A. A. Bakeev, T. P. Narozhnaya and R. E. Rovinskii. **35**(4), 460 (Oct. 1973); CPM-7402D0202

Bakhrakh, V. L.—Role of exchange in light-shift scattering for a double well —S. I. Vetchinkin and V. L. Bakhrakh. **34**(2), 139–41 (Feb. 1973); CPM-7310E0101

Bakhramov, S. A.—Spiked structure of stimulated emission pulses in rubidium vapor —F. A. Korolev, V. I. Atroshchenko, S. A. Bakhramov and V. I. Odintsov. **34**(5), 591–2 (May 1973); CPM-7311E0153

Bakhshiev, N. G.—Continuous Frequency Tuning of a Laser of Mixed Dye Solution —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **34**(1), 81–2 (Jan. 1973); CPM-7308D0105

—Influence of intermolecular interactions on the vibrational spectra of molecules, X. Intensities of the infrared absorption bands of H_2O and SO_2 molecules —S. Kh. Akopyan, O. P. Girin, A. M. Kokushkin and N. G. Bakhshiev. **34**(2), 147–9 (Feb. 1973); CPM-7310E0109

—Some results in the description of solvatochromic phenomena by taking account pairwise van der Waals interactions of molecules —A. I. Perov and N. G. Bakhshiev. **34**(5), 518–20 (May 1973); CPM-7311E0080

—Relation between observed and true absorption spectra of molecules in a condensed medium. 7: One of the physical reasons for the failure of Beer's law in concentrated solutions —B. A. Mikhailov, V. M. Zolotarev and N. G. Bakhshiev. **34**(6), 627–30 (Jun. 1973); CPM-7311E0189

Bakhshiev, N. G.—Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

—Allowance for the differences between effective and average fields in the experimental determination of the characteristics of molecular transitions from the vibronic spectra of the anthracene crystal —I. I. Shigorin, V. S. Libov and N. G. Bakhshiev. **35**(2), 134–6 (Aug. 1973); CPM-7312F0058

—Influence of the effective light field on the Raman spectra of condensed media. II: A method of determining the correction for the observed Raman spectrum —V. M. Sidorenko, V. S. Libov and N. G. Bakhshiev. **35**(2), 158–61 (Aug. 1973); CPM-7312F0082

—Experimental study of the lasing characteristics of solutions of phthalimide substitutes with lamp pumping —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(5), 553–4 (Nov. 1973); CPM-7403D0093

—Lasing of pyrilium perchlorate solutions by lamp pumping[1] —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(6), 675–6 (Dec. 1973); CPM-7404E0093

Baklanov, E. V.—Resonance interaction of strong oppositely traveling waves in a gas —E. V. Baklanov. **34**(6), 711–2 (Jun. 1973); CPM-7311E0273

Balashov, V. V.—Generalized differential oscillator strengths of the helium atom near the $(2s2p)^1P^{(-)}$ autoionization state —V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **35**(1), 6–7 (Jul. 1973); CPM-7312F1764

Baranov, M. N.—Optical spectra of ion-group ions in $LiAl_5O_8$ single crystals —M. N. Baranov and E. F. Kustov. **34**(4), 419–20 (Apr. 1973); CPM-7310E0381

Baranov, S. M.—Application of the diffusion equation to light transmission through scattering media —N. M. Bazhin and S. M. Baranov. **34**(5), 555–8 (May 1973); CPM-7311E0117

Baranov, S. P.—Effect of the absorption of matter on Raman-line intensity measurements —S. P. Baranov and V. D. Prisyazhnyi. **34** (6), 633–4 (Jun. 1973); CPM-7311E0195

Baranova, G. I.—Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

Barbanel, I. S.—Elimination of a fundamental drawback of two-dimensional holograms —E. I. Krupitskii and I. S. Barbanel. **35**(1), 72–4 (Jul. 1973); CPM-7312F1830

Barkovskii, L. M.—Optics of crystals with an Hermitian dielectric tensor —L. M. Barkovskii. **34**(6), 692–4 (Jun. 1973); CPM-7311E0254

Baryshev, V. M.—Calculation of the vibrational spectrum of isobutyronitrile —V. M. Baryshev, V. V. Ryabova and R. Sh. Frenkel. **35**(3), 338–9 (Sep. 1973); CPM-7312F1614

Bashkanskii, E. G.—Conservation laws in processes of nonlinear transformations of light —E. G. Bashkanskii and V. V. Mityugov. **35**(2), 183–5 (Aug. 1973); CPM-7312F0107

Batarchukova, N. R.—Absorption of He–Ne laser radiation by an iodine molecular beam —N. R. Batarchukova, Ts. I. Glozman and A. I. Kartashev. **34**(2), 233–4 (Feb. 1973); CPM-7310E0195

Batog, V. N.—Gyrotropy of sillenite-type crystals —V. A. Kizel, V. I. Burkov, Yu. I. Krasilov, N. L. Kozlova, G. M. Safronov and V. N. Batog. **34**(6), 677–80 (Jun. 1973); CPM-7311E0239

Batygov, S. Kh.—Optical spectra and interaction of rare earth ions in doubly activated fluorite crystals —S. Kh. Batygov, Yu. K. Voronko, L. S. Gaigerova and V. S. Federov. **35**(5), 505–8 (Nov. 1973); CPM-7403D0045

Bazhenov, S. V.—Statistical phenomena in the transient of a He–Ne laser with a given initial photon distribution —S. V. Bazhenov, V. E. Brazovskii and G. G. Telegin. **35**(1), 62–6 (Jul. 1973); CPM-7312F1820

Bazhin, N. M.—Application of the diffusion equation to light transmission through scattering media —N. M. Bazhin and S. M. Baranov. **34**(5), 555–8 (May 1973); CPM-7311E0117

Bedilov, M. R.—Emission of a ruby laser under Co^{60} gamma radiation —M. R. Bedilov and K. Khaidarov. **34**(4), 441–2 (Apr. 1973); CPM-7310E0403

Belaits, I. L.—Relative positions of the lowest $\pi\pi^*$- and $n\pi^*$-levels and the photochromism of indoline spiropyrans in relation to the structure of their molecules —I. L. Belaits and T. D. Platonova. **35** (2), 127–30 (Aug. 1973); CPM-7312F0051

Belogurov, D. A.—Anisotropy of a nonlinear refractive index in acentric crystals: linear electrooptic effect —Yu. V. Shaldin and D. A. Belogurov. **35**(4), 403–7 (Oct. 1973); CPM-7402D0145

Belov, S. P.—High-sensitivity millimeter and submillimeter wide-range microwave spectroscopy of gases —S. P. Belov, A. V. Burenin, L. I. Gershtein, V. V. Korolikhin and A. F. Krupnov. **35** (2), 172–6 (Aug. 1973); CPM-7312F0096

Belskii, A. M.—Reflection of a laser beam from the interface of isotopic dielectrics —A. M. Belskii and A. P. Khapalyuk. **35**(1), 67–8 (Jul. 1973); CPM-7312F1825

Belyaeva, A. A.—Absorption and Luminescence Spectra of Li Atoms in Noble Gas Matrices —A. A. Belyaeva, Yu. B. Predtechenskii and L. D. Shcherba. **34**(1), 21–4 (Jan. 1973); CPM-7308D0045

Belyaevskaya, N. M.—Resonance Spontaneous Raman Scattering Spectra of Cryptocyanine in the Crystalline and Adsorbed State — M. Ya. Tsenter, Ya. S. Bobovich and N. M. Belyaevskaya. **34**(1), 44–5 (Jan. 1973); CPM-7308D0068

Belyavskaya, L. V.—Determination of the Potential Constants of the Ammonia Molecule by Means of a Floating One-Center Wave Function —L. V. Belyavskaya and V. P. Morozov. **34**(3), 260–1 (Mar. 1973); CPM-7310E0222

Belyi, M. U.—Spectroscopic Properties of Glasslike Solutions with Molecular-Anion Admixture —M. U. Belyi, V. R. Kumeskii and I. Ya. Kushnirenko. **34**(1), 49–53 (Jan. 1973); CPM-7308D0073

—Temperature quenching of luminescence in tellurium–halide solutions —M. U. Belyi, I. Ya. Kushnirenko and A. B. Leontev. **34** (4), 412–5 (Apr. 1973); CPM-7310E0374

—Determination of oscillator strengths for transitions in HCl–Sn^{2+} solution —M. U. Belyi, I. V. Zakharchenko and B. A. Okhrimenko. **34**(5), 521–4 (May 1973); CPM-7311E0083

Berezhnoi, A. A.—Relaxation nature of the electrooptical effect in lead–magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, Z. V. Nesterova and Yu. V. Popov. **34**(2), 228–9 (Feb. 1973); CPM-7310E0190

Berezhnoi, A. A.—Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

Berezin, V. I.—Determination of a system of force constants and interpretation of the vibrational spectra of γ-picoline, γ-picoline-d_3, and 2,6- and 3,5-lutidines. Symmetric vibrations — V. I. Berezin and M. D. Elkin. **34**(4), 395–7 (Apr. 1973); CPM-7310E0357

Berezin, V. I.—Assignment of the vibrational frequencies and the force constants of nitropyridines —V. I. Berezin and M. D. Elkin. **35**(1), 49–51 (Jul. 1973); CPM-7312F1807

Berezina, N. B.—Energy levels in a Thomas–Fermi potential and their relation to atomic spectra —Yu. N. Demkov and N. B. Berezina. **34**(5), 485–7 (May 1973); CPM-7311E0047

Berezovskii, V. V.—Four frequency structure of the CO_2 laser pulse —V. V. Berezovskii, Yu. A. Bykovskii, N. A. Blinov and A. N. Remizov. **35**(1), 98–100 (Jul. 1973); CPM-7312F1856

Bertsev, V. V.—Infrared spectra of cryosystems. I. Linear molecules —V. V. Bertsev, M. O. Bulanin and T. D. Kolomiitsova. **35**(2), 162–4 (Aug. 1973); CPM-7312F0086

Bikmikhametov, K. A.—Collision broadening of the 1.53 μm line of mercury in an Hg–He, Hg–Ne mixture —K. A. Bikmikhametov, V. M. Klementev and V. P. Chebotaev. **34**(6), 616–7 (Jun. 1973); CPM-7311E0178

Bikmukhametov, K. A.—Simultaneous lasing on mercury and neon transitions in the composite gaseous mixture Hg–He–Ne —K. A. Bikmukhametov and V. M. Klementev. **35**(1), 105 (Jul. 1973); CPM-7312F1863

Biktimirov, A. Ya.—Estimation of the Correlation Component from an Approximate Wave Function —I. D. Lyast and A. Ya. Biktimirov. **34**(3), 252–3 (Mar. 1973); CPM-7310E0214

—Application of the local energy method to the consideration of correlation in outer shells of atoms —A. Ya. Biktimirov and I. Ts. Lyast. **34**(6), 599–600 (Jun. 1973); CPM-7311E0161

Bilyi, Ya. M.—Effect of fiberglass on the frequency-contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416

Blank, V. A.—Optical properties of SiO_2 in the spectral region 5–40 eV —O. M. Sorokin, V. A. Blank and G. A. Lebedeva. **35**(3), 291–4 (Sep. 1973); CPM-7312F1567

Blinov, N. A.—Four frequency structure of the CO_2 laser pulse —V. V. Berezovskii, Yu. A. Bykovskii, N. A. Blinov and A. N. Remizov. **35**(1), 98–100 (Jul. 1973); CPM-7312F1856

Bobonitz, F. M.—Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Bobovich, Ya. S.—Resonance Spontaneous Raman Scattering Spectra of Cryptocyanine in the Crystalline and Adsorbed State —M. Ya. Tsenter, Ya. S. Bobovich and N. M. Belyaevskaya. **34**(1), 44–5 (Jan. 1973); CPM-7308D0068

—Some Characteristics of Resonant Raman Scattering —S. G. Rautian and Ya. S. Bobovich. **34**(3), 356–7 (Mar. 1973); CPM-7310E0318

Bobovich, Ya. S.—Resonance Raman scattering by liquid solutions of molecular ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov and A. N. Sidorov. **35**(2), 154–7 (Aug. 1973); CPM-7312F0078

Bobrik, V. I.—He–Ne laser with a nonlinear absorbing gas as delay line —V. I. Bobrik, Yu. D. Kolomnikov and V. P. Chebotaev. **35** (6), 682–3 (Dec. 1973); CPM-7404E0100

Bodnar, I. T.—Investigation of the refractive indices of quartz in the α–β transition region —V. K. Semenchenko and I. T. Bodnar. **35** (1), 56–8 (Jul. 1973); CPM-7312F1814

—An optical study of the characteristics of the α, β transition in Al-doped quartz —V. K. Semenchenko and I. T. Bodnar. **35**(3), 335–6 (Sep. 1973); CPM-7312F1611

Bodrug, S. N.—F-f transitions in the spectra of $KMgF_3$ and $NaMgF_3$ crystals activated with Eu^{2+} —S. N. Bodrug, E. G. Valyashko, V. N. Mednikova, D. T. Sviridov and R. K. Sviridov. **34**(2), 176–7 (Feb. 1973); CPM-7310E0138

Bodunov, E. N.—Direct Determination of the Number of Triplet Excitons Arriving at the Surface of a Polymer. Heterogeneous Photosensitization —G. I. Lashkov, L. S. Shatseva and E. N. Bodunov. **34**(1), 57–60 (Jan. 1973); CPM-7308D0081

—Effect of Electrostatic Interaction of Ions on Nonradiative Ion–to–Ion Energy Transfer. III. Liquid Solutions —E. N. Bodunov. **34**(3), 280–3 (Mar. 1973); CPM-7310E0242

—Nonradiative energy transfer from rare earth ions to dyes. III. Effect of ionic Coulomb interaction on dipole–dipole energy transfer in water —T. A. Shakhverdov and E. N. Bodunov. **34**(6), 646–50 (Jun. 1973); CPM-7311E0208

Bogachev, N. V.—Change in the polarizability of a molecule and its derivative in the field of a solvent —S. K. Potapov and N. V. Bogachev. **35**(2), 214–6 (Aug. 1973); CPM-7312F0138

Bogdanov, V. L.—Correlation between the Intensity of a Transition and the Intensity Distribution in the Electronic Spectra of Organic Compounds —V. P. Klochkov and V. L. Bogdanov. **34**(1), 25–8 (Jan. 1973); CPM-7308D0049

Bogdanova, I. P.—Temperature dependence of the cross section for the destruction of metastable helium atoms by argon and xenon atoms —I. P. Bogdanova and V. D. Marusin. **34**(5), 593–5 (May 1973); CPM-7311E0155

Boguslavskii, L. I.—Spectral dependences of the photoconductivity of anthracene single crystals with electrolytic injecting contacts —R. I. Kukhtin, A. B. Imenitov, B. T. Lozhkin and L. I. Boguslavskii. **35**(5), 491–3 (Nov. 1973); CPM-7403D0031

Boiko, B. B.—Reflectance and transmittance for the interface between an absorbing and a transparent medium —B. B. Boiko, N. S. Petrov and F. I. Fedorov. **35**(6), 677–9 (Dec. 1973); CPM-7404E0095

Boiko, V. A.—Observation of satellites to the resonance transitions of H– and He–like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

Boitsov, V. F.—Field and Loss Properties in a Three–Mirror Ring Optical Resonator with a Gaussian Diaphragm —V. F. Boitsov and T. A. Murina. **34**(3), 327–30 (Mar. 1973); CPM-7310E0289

Boitsov, V. F.—Statistical theory of induced Mandelstam–Brillouin scattering —V. F. Boitsov and S. G. Slyusarev. **35**(1), 101–3 (Jul. 1973); CPM-7312F1859

—Some properties of coherent optical fields —V. F. Boitsov, Yu. E. Murakhver and S. G. Slyusarev. **35**(4), 411–4 (Oct. 1973); CPM-7402D0153

Bokov, O. G.—Internal Field in Nonpolar Liquids —O. G. Bokov. **34**(3), 274–6 (Mar. 1973); CPM-7310E0236

—Internal field in a liquid and polarizabilities of interacting molecules. Limiting case of a strong external field —O. G. Bokov. **34**(4), 401–3 (Apr. 1973); CPM-7310E0363

—Universal intermolecular interactions and temperature dependence of the refractive index of nonpolar liquids —O. G. Bokov. **34**(5), 577–9 (May 1973); CPM-7311E0139

Bokshtein, M. F.—Determination of characteristic parameters of optically anisotropic layers —M. F. Bokshtein. **35**(3), 336–8 (Sep. 1973); CPM-7312F1612

Boldyrev, V. A.—Intensity and half–width of CO_2 lines in the 14° 1–00° O band —V. A. Boldyrev and K. P. Vasilevskii. **35**(5), 476–8 (Nov. 1973); CPM-7403D0016

Bolonkin, A. E.—Effect of electron–nuclear interaction on transition probabilities in the theory of vibrational–rotational molecular spectra —A. E. Bolonkin and Yu. S. Makushkin. **35**(1), 46–8 (Jul. 1973); CPM-7312F1804

Bolotovskii, B. M.—Energy losses of a charges particle moving in a medium with weak scattering —B. M. Bolotovskii and R. S. Isaev. **35**(4), 450–1 (Oct. 1973); CPM-7402D0192

Bonch–Bruevich, A. M.—Induced Circular Birefringence in Rubidium Vapor —A. M. Bonch–Bruevich, V. A. Khodovoi and V. V. Khromov. **34**(1), 109–10 (Jan. 1973); CPM-7308D0133

—Induced absorption of polymethine dyes —A. M. Bonch–Bruevich, T. K. Razumova and G. M. Rubanova. **34**(2), 172–5 (Feb. 1973); CPM-7310E0134

Bonch–Bruevich, A. M.—Studies on the character of broadening of the energy states of polymethine–dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and I. O. Starobogatov. **35**(4), 374–6 (Oct. 1973); CPM-7402D0116

—Induced absorption of polymethine dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and G. M. Rubanova. **35**(5), 484–7 (Nov. 1973); CPM-7403D0024

Bonchkovskii, V. I.—Temperature shift of Nd^{3+} energy levels in $CaWO_4$ crystals —V. I. Bonchkovskii, V. A. Kobzar–Zlenko, S. A. Sazonova and B. S. Skorobogatov. **35**(3), 281–2 (Sep. 1973); CPM-7312F1557

Bondarenko, M. D.—Enhancement of axial brightness of lases beams by holographic phase correction —M. D. Bondarenko and M. S. Soskin. **35**(6), 665–7 (Dec. 1973); CPM-7404E0083

Bondarev, A. F.—Resonance broadening of the infrared absorption bands of molecules in liquids —A. I. Mardaeva, A. F. Bondarev and Yu. S. Rusetskii. **34**(6), 631–2 (Jun. 1973); CPM-7311E0193

Bondarev, A. F.—Effect of concentration fluctuations in solutions on line widths in molecular vibrational spectra —A. F. Bondarev and A. I. Mardaeva. **35**(2), 167–8 (Aug. 1973); CPM-7312F0091

Boyarskii, K. K.—Effect of cascade transitions on the crossing signal from the 6^3S_1 cadmium level —K. K. Boyarskii and E. N. Kotlikov. **34**(5), 592–3 (May 1973); CPM-7311E0154

Brazovskii, V. E.—Statistical phenomena in the transient of a He–Ne laser with a given initial photon distribution —S. V. Bazhenov, V. E. Brazovskii and G. G. Telegin. **35**(1), 62–6 (Jul. 1973); CPM-7312F1820

Bren, V. A.—Spectral–luminescent properties of azomethines in the quinoid form. I. Anils 3–oxybenzofuran–2–aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. **35**(6), 610–2 (Dec. 1973); CPM-7404E0028

Bren, Zh. V.—Spectral–luminescent properties of azomethines in the quinoid form. I. Anils 3–oxybenzofuran–2–aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. **35**(6), 610–2 (Dec. 1973); CPM-7404E0028

Brilinskii, M. I.—Effect of fiberglass on the frequency–contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416

Brodin, M. S.—Properties of surface– and bulk–exciton spectra of an anthracene crystal for various orientations of the wave vector —M. S. Brodin, M. A. Dudinskii and S. V. Marisova. **34**(6), 651–4 (Jun. 1973); CPM-7311E0213

Broude, V. L.—Anomalous exciton splitting in the vibrational spectrum of a naphthalene crystal in the 3000 cm^{-1} region —V. L. Broude and A. A. Shirokov. **34**(2), 230–1 (Feb. 1973); CPM-7310E0192

Brusin, I. Ya.—Effects of photomaterial noise on the resolving power of a holographic image —I. Ya. Brusin. **34**(4), 447–50 (Apr. 1973); CPM-7310E0409

—Nonlinear distortions of a holographic image —I. Ya. Brusin. **34**(6), 698–701 (Jun. 1973); CPM-7311E0260

Bryukhanov, V. N.—Applicability of the Rigid and Nonrigid Top Models for the Reproduction of the System of Rotational Levels of Asymmetric Polyatomic Molecules —V. N. Bryukhanov and Yu. S. Makushkin. **34**(1), 31–2 (Jan. 1973); CPM-7308D0055

Bugrim, E. D.—Spectroscopic Study of Vibrational–Energy Scattering in I_2 Molecules Excited by a He–Ne Laser —E. D. Bugrim, S. N. Makrenko and I. L. Tsikora. **34**(1), 35–7 (Jan. 1973); CPM-7308D0059

Buinov, G. N.—Effect of hologram aberrations on image quality —G. N. Buinov, R. K. Gizatullin and K. S. Mustafin. **34**(4), 443–6 (Apr. 1973); CPM-7310E0405

—Possibility of using uniaxial holograms for image multiplication —G. N. Buinov and K. S. Mustafin. **34**(5), 539–41 (May 1973); CPM-7311E0101

Bukatii, V. I.—Dynamics of clearing a low–absorbing turbid medium in an intense light field —V. I. Bukatii, Yu. D. Kopytin, M. M. Krekova and G. M. Krekov. **35**(4), 418–9 (Oct. 1973); CPM-7402D0160

Bulanin, M. O.—Infrared spectra of cryosystems. I. Linear molecules —V. V. Bertsev, M. O. Bulanin and T. D. Kolomiitsova. **35**(2), 162–4 (Aug. 1973); CPM-7312F0086

Bulgakov, R. G.—Photoluminescence and phototransfer of an electron in acid aqueous solutions of Eu(II) —R. G. Bulgakov, V. P. Kazakov and V. N. Korobeinikova. **35**(5), 497–500 (Nov. 1973); CPM-7403D0037

Burenin, A. V.—High–sensitivity millimeter and submillimeter wide–range microwave spectroscopy of gases —S. P. Belov, A. V. Burenin, L. I. Gershtein, V. V. Korolikhin and A. F. Krupnov. **35**(2), 172–6 (Aug. 1973); CPM-7312F0096

Burkov, V. I.—Optical activity of a thallium–uranyl–propionate crystal —Z. M. Alikhanova, V. I. Burkov, V. A. Kizel, Yu. I. Krasilov, V. A. Madii and G. M. Safronov. **34**(5), 573–4 (May 1973); CPM-7311E0135

—Gyrotropy of sillenite-type crystals —V. A. Kizel, V. I. Burkov, Yu. I. Krasilov, N. L. Kozlova, G. M. Safronov and V. N. Batog. **34** (6), 677–80 (Jun. 1973); CPM-7311E0239

Burkov, V. I.—Comparative study of optical activity in α-$NiSO_4.6H_2O$ and α-$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Burnashev, M. N.—Nonreciprocity of oppositely traveling waves in a gas ring laser at λ=0.63 μm by diaphragming —M. N. Burnashev and Yu. V. Filatov. **35**(5), 577–8 (Nov. 1973); CPM-7403D0117

Burshtein, A. I.—Measurement of the frequency correlation function of an intense frequency-modulated field —L. D. Zusman and A. I. Burshtein. **34**(4), 476–7 (Apr. 1973); CPM-7310E0438

Bykovskii, Yu. A.—Four frequency structure of the CO_2 laser pulse —V. V. Berezovskii, Yu. A. Bykovskii, N. A. Blinov and A. N. Remizov. **35**(1), 98–100 (Jul. 1973); CPM-7312F1856

Bystrov, D. S.—Determinantal form of the sum rules in the theory of molecular vibrational spectra —Nguyen Thke Kyong and D. S. Bystrov. **35**(6), 613–5 (Dec. 1973); CPM-7404E0031

Byteva, I. M.—Photochemical Method for Determining the Efficiency of the Conversion of Molecules into the Triplet State — O. M. Petsold, I. M. Byteva and G. P. Gurinovich. **34**(3), 343–4 (Mar. 1973); CPM-7310E0305

C

Chaika, M.—Some experiments in the study of implicit alignment — S. Kazantsev, V. Markov and M. Chaika. **34**(5), 492–3 (May 1973); CPM-7311E0054

Chaika, M. P.—Level Crossover Signal in the Case of an Arbitrary Time Dependence of Excitation —M. P. Chaika. **34**(1), 108 (Jan. 1973); CPM-7308D0132

—Longitudinal alignment of the lasing levels of a helium–neon laser —V. A. Polishchuk, G. Todorov, K. Khartung and M. P. Chaika. **34**(6), 709–11 (Jun. 1973); CPM-7311E0271

—Stark constant β_1 of the $6^2P_{3/2}$ state of Rb^{85} —V. N. Grigoreva, G. I. Khvostenko and M. P. Chaika. **34**(6), 712–4 (Jun. 1973); CPM-7311E0274

—Alignment of excited helium atoms in a direct-current discharge — S. A. Kazantsev, A. Kisling and M. P. Chaika. **34**(6), 714–5 (Jun. 1973); CPM-7311E0276

Chaikovskii, A. P.—Autocorrelation function of doubly scattered radiation —A. P. Ivanov, A. Ya. Khairullina and A. P. Chaikovskii. **35**(6), 668–71 (Dec. 1973); CPM-7404E0086

Chaltykyan, V. O.—Scattering of strong polarized waves by a two-level atom —V. M. Arutyunyan, E. G. Kanetsyan and V. O. Chaltykyan. **35**(2), 186–8 (Aug. 1973); CPM-7312F0110

Chalyi, A. V.—Ratio of the fine-structure components in a Rayleigh line near the critical point —A. D. Alekhin and A. V. Chalyi. **34** (5), 552–4 (May 1973); CPM-7311E0114

Chalyi, A. V.—Analysis of the scattering indicatrix near the critical point —E. L. Lakoza, N. L. Tsyganov and A. V. Chalyi. **35**(3), 299–301 (Sep. 1973); CPM-7312F1575

Chebotaev, V. P.—Collision broadening of the 1.53 μm line of mercury in an Hg–He, Hg–Ne mixture —K. A. Bikmikhametov, V. M. Klementev and V. P. Chebotaev. **34**(6), 616–7 (Jun. 1973); CPM-7311E0178

Chebotaev, V. P.—He–Ne laser with a nonlinear absorbing gas as delay line —V. I. Bobrik, Yu. D. Kolomnikov and V. P. Chebotaev. **35**(6), 682–3 (Dec. 1973); CPM-7404E0100

Chebotareva, T. E.—Calculation of the states of a Ce^{3+} ion in fluorite-type crystals —N. V. Starostin, P. F. Gruzdev, V. A. Ganin and T. E. Chebotareva. **35**(3), 277–80 (Sep. 1973); CPM-7312F1553

Chekhlova, T. K.—Investigation of gelatin film optical microwaveguides —L. N. Deryugin and T. K. Chekhlova. **35**(2), 209–11 (Aug. 1973); CPM-7312F0133

Chekushin, S. I.—Empirical calculation of the intensities of the NH valence vibrations of the fragment –NH–NH_2 —S. I. Chekushin, E. V. Titov and V. I. Rybachenko. **35**(5), 576 (Nov. 1973); CPM-7403D0116

Cheltsov, P. A.—Comparative study of optical activity in α-$NiSO_4.6H_2O$ and α-$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Cherezova, L. A.—Some electrical and optical properties of chromium-, nolybdenum- and tungsten-nitride layers —L. A. Cherezova and B. P. Kryzhanovskii. **34**(2), 234–6 (Feb. 1973); CPM-7310E0196

Cherkasov, A. S.—Stimulated lasing by solutions of anthracene derivatives —A. V. Aristov, V. A. Kuzin and A. S. Cherkasov. **35** (2), 192–4 (Aug. 1973); CPM-7312F0116

Cherkasov, Yu. A.—The reflectance spectra of organic polymers in the 5–23.1 eV energy range —L. N. Vinokurova, Yu. A. Cherkasov and P. P. Kisilitsa. **34**(4), 464–6 (Apr. 1973); CPM-7310E0426

Chernov, P. V.—Photostimulated thermoluminescence of fluorite crystals doped with rare earth ions —L. S. Kornienko, A. A. Lozhnikov, V. I. Nazarov and P. V. Chernov. **35**(6), 651–3 (Dec. 1973); CPM-7404E0069

—Radiation-induced defects in fluorite unstable at 77 K —N. E. Kask, L. S. Kornienko and P. V. Chernov. **35**(6), 683–4 (Dec. 1973); CPM-7404E0101

Chibisov, A. K.—Use of Triplet–Triplet Energy Transfer for Determining Quantum Yield of Interconversion into a Triplet State —V. L. Pugachev and A. K. Chibisov. **34**(3), 284–5 (Mar. 1973); CPM-7310E0246

Chizhikova, Z. A.—Absorption Spectra of Excited Molecules of Cyanine Dyes —M. D. Galanin and Z. A. Chizhikova. **34**(1), 110–1 (Jan. 1973); CPM-7308D0134

Chizhov, Yu. V.—The mechanism of autoionization processes in CS_2 —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(2), 144–6 (Feb. 1973); CPM-7310E0106

—Applicability of the Franck–Condon principle to the autoionization of the N_2 molecule —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(5), 590 (May 1973); CPM-7311E0152

Cholakh, S. O.—Luminescence and excitation spectra of LiH and LiD single crystals at low temperatures —L. A. Rebane, B. V. Vlasov, F. F. Gavrilov, S. O. Cholakh and V. D. Pirogov. **35**(1), 91–2 (Jul. 1973); CPM-7312F1849

Chuvilin, Yu. N.—Temperature dependence of the lifetime of excited UO_2^{2+} ions in frozen sulfuric acid solutions: role of structural transitions —V. P. Kazakov, V. N. Korobeinikov, Yu. N. Chuvilin, V. V. Rykova and I. G. Kovelzon. **35**(5), 576–7 (Nov. 1973); CPM-7403D0116

D

Dalidchik, F. I.—Interaction between excited atoms and molecule — F. I. Dalidchik and G. K. Ivanov. **34**(5), 498–500 (May 1973); CPM-7311E0060

Danchinov, K. M.—Calculation of the frequencies of the in-plane vibrations of nitrobenzene —K. M. Danchinov, E. A. Gastilovich, A. N. Rodionov and D. N. Shigorin. **34**(4), 456–8 (Apr. 1973); CPM-7310E0418

Danilov, V. V.—Depolarization of photoluminescence by powerful excitation —Yu. T. Mazurenko, V. V. Danilov and S. I. Vorontsova. **35**(1), 107–8 (Jul. 1973); CPM-7312F1865

Dashchenko, A. I.—Excitation cross sections of bands of the first negative system of nitrogen in electron–ion collisions —A. I. Dashchenko, I. P. Zapesochnyi and A. I. Imre. **35**(5), 562–3 (Nov. 1973); CPM-7403D0102

Davydkin, V. A.—Green's function and the dynamic polarizability of H_2^+ —V. A. Davydkin and L. P. Rapoport. **35**(2), 218–9 (Aug. 1973); CPM-7312F0142

Davydov, B. L.—Nature of the absorption bands and the origin of the high nonlinear dielectric susceptibility of molecular crystals —B. L. Davydov, V. V. Dunina, V. F. Zolin and L. G. Koreneva. **34**(2), 150–3 (Feb. 1973); CPM-7310E0112

Davydova, N. I.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Delyukov, A. A.—Vibronic structure of absorption spectra of molecular crystals —A. A. Delyukov and G. V. Klimusheva. **35**(6), 648–50 (Dec. 1973); CPM-7404E0066

Demchuk, Yu. S.—Fine structure of the fluorescence spectrum of anthracene vapors under anti-Stokes excitation —S. O. Mirumyants, E. A. Vandyukov and Yu. S. Demchuk. **34**(5), 596–7 (May 1973); CPM-7311E0158

Demikhov, Yu. N.—Luminescence and the energy transfer of singlet excitation in solid styrene monomer —Yu. N. Demikhov, A. N. Faidysh and V. N. Yashchuk. **35**(4), 377–8 (Oct. 1973); CPM-7402D0119

Demkov, Yu. N.—Energy levels in a Thomas–Fermi potential and their relation to atomic spectra —Yu. N. Demkov and N. B. Berezina. **34**(5), 485–7 (May 1973); CPM-7311E0047

Demkov, Yu. N.—Calculation of the distribution over vibrational and rotational states in the reaction $A^- + A \rightarrow A_2 + e$ by means of the generalized Franck–Condon principle —Yu. N. Demkov and V. V. Kuchinskii. **35**(5), 467–9 (Nov. 1973); CPM-7403D0007

Denisov, G. S.—Spectra of hydrogen bonded complexes and ion pairs in the far infrared region (70–700 cm^{-1}). Pyridine–acid system — G. S. Denisov, Ya. Starosta and V. M. Shraiber. **35**(3), 262–4 (Sep. 1973); CPM-7312F1538

Deryugin, I. A.—Polarization contrast method in holography —I. A. Deryugin, V. N. Kurashov, D. V. Podanchuk and Yu. V. Khoroshkov. **35**(2), 195–9 (Aug. 1973); CPM-7312F0119

Deryugin, L. N.—Investigation of gelatin film optical microwaveguides —L. N. Deryugin and T. K. Chekhlova. **35**(2), 209–11 (Aug. 1973); CPM-7312F0133

Dianov-Klokov, V. I.—Path distribution of photons in low absorption powders —V. I. Dianov-Klokov and E. V. Fokeeva. **35**(3), 302–6 (Sep. 1973); CPM-7312F1578

Dmitriev, A. K.—Use of the sharp resonances in methane for He–Ne laser frequency stabalization at $\lambda = 3.39\ \mu$ —S. N. Bagaev and A. K. Dmitriev. **34**(2), 191–3 (Feb. 1973); CPM-7310E0153

Dmitriev, A. L.—Resolving power of a sinusoidal Fresnel zone plate —A. L. Dmitriev. **34**(5), 566–8 (May 1973); CPM-7311E0128

Dmitryuk, A. V.—Transformation of neodymium–laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

Dmytruk, Y. P.—Effect of fiberglass on the frequency–contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416

Dovgalenko, G. E.—Transmission of coherent radiation through a birefringent optically active medium in an arbitrary direction. Jones matrices —V. D. Tronko and G. E. Dovgalenko. **34**(6), 673–6 (Jun. 1973); CPM-7311E0235

Dovgii, Ya. D.—Effect of fiberglass on the frequency–contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416

Dovgopol, S. P.—Relaxation of optically oriented atoms in a nonuniform magnetic field —S. P. Dovgopol, V. P. Putyrskii and S. L. Votyakov. **35**(6), 596–9 (Dec. 1973); CPM-7404E0014

Dubkov, V. I.—Photomixing of the main and reference laser beams in the analysis of the frequency composition of laser radiation by optical heterodyning —V. I. Dubkov and B. A. Kiselev. **35**(2), 189–90 (Aug. 1973); CPM-7312F0113

Dubnishchev, Yu. N.—Measurement of Linear Velocity of a Body by the Optical Doppler Effect —Yu. N. Dubnishchev, A. I. Lokhmatov, L. N. Koshcheev, A. A. Stolpovskii and E. N. Utkin. **34**(3), 335 (Mar. 1973); CPM-7310E0297

Dubnishchev, Yu. N.—Reduction of additive-noise level in the output signal of a laser velocity meter —Yu. G. Vasilenko, Yu. N. Dubnishchev and E. N. Utkin. **35**(2), 212–3 (Aug. 1973); CPM-7312F0136

Dudinskii, M. A.—Properties of surface- and bulk–exciton spectra of an anthracene crystal for various orientations of the wave vector —M. S. Brodin, M. A. Dudinskii and S. V. Marisova. **34**(6), 651–4 (Jun. 1973); CPM-7311E0213

Dudko, D. Ya.—Experimental Investigation of the Relaxation of Excited States in a Decaying Alkali Plasma —D. Ya. Dudko, Yu. P. Korchevoi and V. I. Lukashenko. **34**(1), 17–20 (Jan. 1973); CPM-7308D0041

Duisebaeva, Zh.—Optical Properties of Palladium —Zh. Duisebaeva, M. I. Korsunskii and G. P. Motulevich. **34**(3), 307–8 (Mar. 1973); CPM-7310E0269

Dukarevich, Yu. E.—Completeness of a measuring process in optical systems —Yu. E. Dukarevich. **34**(4), 451–3 (Apr. 1973); CPM-7310E0413

Dukarevich, Yu. E.—Complete measuring process in optical systems. Part I —Yu. E. Dukarevich. **35**(4), 408–10 (Oct. 1973); CPM-7402D0150

—Complete measuring process in optical systems. II —Yu. E. Dukarevich. **35**(5), 540–3 (Nov. 1973); CPM-7403D0080

Duman, E. L.—Depolarization of an excited atom by collision with another atomic particle —E. L. Duman. **35**(2), 113–7 (Aug. 1973); CPM-7312F0037

Dunina, V. V.—Nature of the absorption bands and the origin of the high nonlinear dielectric susceptibility of molecular crystals —B. L. Davydov, V. V. Dunina, V. F. Zolin and L. G. Koreneva. **34**(2), 150–3 (Feb. 1973); CPM-7310E0112

Dzyubenko, M. I.—Lasing characteristics of dye solutions in dispersive cavities under lamp pumping —I. G. Naumenko, A. M. Korobov and M. I. Dzyubenko. **34**(6), 683–5 (Jun. 1973); CPM-7311E0245

Dzyublik, A. Ya.—Vibrational rotational energies of linear triatomic molecules —A. Ya. Dzyublik. **34**(2), 133–5 (Feb. 1973); CPM-7310E0095

E

Edelman, I. S.—Optical and magnetooptical properties of iron borate in the visible and near ultraviolet spectral regions —I. S. Edelman and A. V. Malakhovskii. **35**(5), 554–5 (Nov. 1973); CPM-7403D0094

Egiazaryan, L. Sh.—Elimination of diffraction orders from synthesized binary holograms —L. Sh. Egiazaryan, S. Kh. Oganesyan, B. E. Khaikin and V. S. Khitrova. **35**(4), 444–5 (Oct. 1973); CPM-7402D0186

Egorov, Yu. P.—Splitting of the ν (C≡N) band of acetonitrile on intermolecular interaction with antimony trichloride in solution — Yu. P. Egorov, E. V. Ryltsev and I. F. Tsymbal. **35**(2), 165–6 (Aug. 1973); CPM-7312F0089

Elango, A. A.—Luminescence Centers in KBr–TlBr Single Crystals with TlBr Concentrations up to 20 mol.% —R. I. Gindina, A. A. Elango, A. A. Khaav, A. A. Maaroos and A. A. Tsirk. **34**(1), 63–6 (Jan. 1973); CPM-7308D0087

Elchaninova, S. D.—Energy spectrum of Dy^{3+} ion in single crystals of the $KY(MoO_4)_2$: $KDy(MoO_4)_2$ system —T. S. Stetsenko, A. M. Pshisukha, S. D. Elchaninova and A. I. Zvyagin. **34**(2), 227–8 (Feb. 1973); CPM-7310E0189

Eliseev, A. A.—Excitation of the $B^3\Pi_g$ State of Molecular Nitrogen in a Glow Discharge —O. V. Ravodina, T. N. Popova, A. A. Eliseev and S. S. Smolyakov. **34**(3), 243–5 (Mar. 1973); CPM-7310E0205

Eliseev, P. G.—Electrooptical and piezoelectric tuning of a compound cavity of a semiconductor laser —P. G. Eliseev and A. V. Khaidarov. **34**(2), 194–5 (Feb. 1973); CPM-7310E0156

Elkin, M. D.—Determination of a system of force constants and interpretation of the vibrational spectra of γ-picoline, γ-picoline-d_7, and 2,6- and 3,5-lutidines. Symmetric vibrations — V. I. Berezin and M. D. Elkin. **34**(4), 395–7 (Apr. 1973); CPM-7310E0357

Elkin, M. D.—Assignment of the vibrational frequencies and the force constants of nitropyridines —V. I. Berezin and M. D. Elkin. **35**(1), 49–51 (Jul. 1973); CPM-7312F1807

Ellert, G. V.—Temperature broadening and shift of phononless lines in the spectra of crystalline uranyl compound with a polymer-type structure —R. N. Shchelokov, G. V. Ellert, V. E. Karasev, Yu. I. Krasilov and G. M. Gaevoi. **35**(5), 570–1 (Nov. 1973); CPM-7403D0110

Epshtein, E. M.—Multiquantum absorption of light by conduction electrons in extrinsic semiconductors —V. L. Malevich and E. M. Epshtein. **35**(3), 346–7 (Sep. 1973); CPM-7312F1622

Eremenko, A. A.—Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Eremenko, A. M.—Measurement of relative values of oscillator strengths in the spectra of nickel and cobalt atoms by the method of linear absorption —P. P. Ostroumenko and A. M. Eremenko. **34**(6), 605–6 (Jun. 1973); CPM-7311E0167

Erikhman, N. S.—Higher vibrational states of polyatomic molecules. I —A. A. Ovchinnikov and N. S. Erikhman. **34**(4), 398–400 (Apr. 1973); CPM-7310E0360

—Higher vibrational states of polyatomic molecules. Part 2 —A. A. Ovchinnikov and N. S. Erikhman. **34**(5), 510–1 (May 1973); CPM-7311E0072

Ermolaev, V. L.—Quenching of luminescence in hydrogen-bonded complexes. Investigation of model systems aromatic hydrocarbons —salts of nitrogen heterocyclics —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(5), 584–5 (May 1973); CPM-7311E0146

—Effect of temperature on the luminescence quenching constant in hydrogen bonded complexes —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(6), 718–9 (Jun. 1973); CPM-7311E0280

Ermolaev, V. L.—Anomalous temperature dependence of the luminescence decay time of rare-earth ions —V. L. Ermolaev and V. S. Tachin. **35**(5), 566–7 (Nov. 1973); CPM-7403D0106

Ermoshkin, A. N.—Use of molecular-orbital method for the calculation of impurity electronic levels in ionic crystals. 1: Molecular model for the KCl (Tl) center —A. N. Ermoshkin and R. A. Evarestov. **35**(4), 456–8 (Oct. 1973); CPM-7402D0198

Evarestov, R. A.—Use of molecular-orbital method for the calculation of impurity electronic levels in ionic crystals. 1: Molecular model for the KCl (Tl) center —A. N. Ermoshkin and R. A. Evarestov. **35**(4), 456–8 (Oct. 1973); CPM-7402D0198

Evtushenko, G. S.—Excitation of Neon in a Glow Discharge —A. N. Soldatov, G. S. Evtushenko and I. I. Muravev. **34**(1), 6–8 (Jan. 1973); CPM-7308D0030

F

Fabrikant, V. A.—Measurement of lifetimes of Kr II levels by electrooptical chronography —Yu. I. Malakhov and V. A. Fabrikant. **34**(4), 371–3 (Apr. 1973); CPM-7310E0333

Faidysh, A. N.—Luminescence and the energy transfer of singlet excitation in solid styrene monomer —Yu. N. Demikhov, A. N. Faidysh and V. N. Yashchuk. **35**(4), 377–8 (Oct. 1973); CPM-7402D0119

Fainberg, B. D.—Theory of the susceptibility of quantum systems with degenerate levels —P. A. Apanasevich, B. D. Fainberg and B. A. Kiselev. **34**(2), 117–9 (Feb. 1973); CPM-7310E0079

—Absorption analysis of strongly-absorbing substances —S. Ya. Petrov and B. D. Fainberg. **34**(4), 472 (Apr. 1973); CPM-7310E0434

Fazliev, D. F.—Vibrational spectra and conformation of phosphorus- and arsenic-containing heterocyclic compounds —A. B. Remizov, R. R. Shakhidullin, D. F. Fazliev and T. G. Mannafov. **34**(2), 142–3 (Feb. 1973); CPM-7310E0104

Federov, V. S.—Optical spectra and interaction of rare earth ions in doubly activated fluorite crystals —S. Kh. Batygov, Yu. K. Voronko, L. S. Gaigerova and V. S. Federov. **35**(5), 505–8 (Nov. 1973); CPM-7403D0045

Fedorov, A. A.—Temperature Variations of the Electronic-Vibrational Spectrum of $LaAlO_3$–Cr^{3+} Crystals —A. M. Tkachuk and A. A. Fedorov. **34**(1), 61–2 (Jan. 1973); CPM-7308D0085

Fedorov, F. I.—Trajectories and current lines of nonuniform electromagnetic wave energy in an isotropic absorbing medium — F. I. Fedorov and V. V. Filippov. **35**(1), 77–80 (Jul. 1973); CPM-7312F1835

—Reflectance and transmittance for the interface between an absorbing and a transparent medium —B. B. Boiko, N. S. Petrov and F. I. Fedorov. **35**(6), 677–9 (Dec. 1973); CPM-7404E0095

Fedoseeva, V. I.—Vibrational spectrum and force field of the trichloromethoxysilane molecule —V. I. Fedoseeva and Yu. A. Pentin. **35**(1), 43–5 (Jul. 1973); CPM-7312F1801

Fedyunina, G. M.—Investigation of certain properties of substituted chalcones and their vinylogs in the electronically excited state — A. N. Nikitina, G. M. Fedyunina, B. Umirzakov, L. A. Yanovskaya and V. F. Kucherov. **34**(2), 163–5 (Feb. 1973); CPM-7310E0125

Feltsan, P. V.—Electronic excitation of some Kr and Xe lines in the vacuum ultraviolet —I. G. Zhukov, I. P. Zapesochnyi and P. V. Feltsan. **34**(4), 475–6 (Apr. 1973); CPM-7310E0437

Feofilov, P. P.—Temperature quenching of uranium luminescence in scheelite-type single crystals —L. G. Morozova and P. P. Feofilov. **35**(4), 458–9 (Oct. 1973); CPM-7402D0200

Filatov, Yu. V.—Nonreciprocity of oppositely traveling waves in a gas ring laser at $\lambda = 0.63$ μm by diaphragming —M. N. Burnashev and Yu. V. Filatov. **35**(5), 577–8 (Nov. 1973); CPM-7403D0117

Filatova, L. S.—Isotropic and Anisotropic Light Scattering in Relaxating Fluids —V. P. Romanov, V. A. Solovev and L. S. Filatova. **34**(3), 309–15 (Mar. 1973); CPM-7310E0271

Filippov, V. V.—Trajectories and current lines of nonuniform electromagnetic wave energy in an isotropic absorbing medium — F. I. Fedorov and V. V. Filippov. **35**(1), 77–80 (Jul. 1973); CPM-7312F1835

Fisher, P. S.—Interpretation of luminescence spectra of uranyl molybdate and uranyl tungstate —V. F. Zolin, S. P. Rozman and P. S. Fisher. **35**(3), 345–6 (Sep. 1973); CPM-7312F1621

Fishman, I. S.—Use of Fourier transforms in the determination of Voigt profile components —V. N. Ivanov and I. S. Fishman. **35**(6), 679–81 (Dec. 1973); CPM-7404E0097

Fokeeva, E. V.—Path distribution of photons in low absorption powders —V. I. Dianov-Klokov and E. V. Fokeeva. **35**(3), 302–6 (Sep. 1973); CPM-7312F1578

Fomin, V. V.—Interpretation of the exponential decrease of the absorption coefficient beyond the head of the 4.3 μ band of carbon dioxide gas —V. V. Fomin. **34**(2), 136–8 (Feb. 1973); CPM-7310E0098

—Special Features of the Formation of the Wing Contours of Self-Broadened Spectral Lines —A. I. Lizengevich and V. V. Fomin. **34**(3), 277–9 (Mar. 1973); CPM-7310E0239

Fotiadi, A. E.—Polarization of cw argon laser emission in a transverse magnetic field —A. E. Fotiadi and S. A. Fridrikhov. **35** (5), 556–7 (Nov. 1973); CPM-7403D0096

Frenkel, R. Sh.—Calculation of the vibrational spectrum of isobutyronitrile —V. M. Baryshev, V. V. Ryabova and R. Sh. Frenkel. **35**(3), 338–9 (Sep. 1973); CPM-7312F1614

Fridrikhov, S. A.—Polarization of cw argon laser emission in a transverse magnetic field —A. E. Fotiadi and S. A. Fridrikhov. **35** (5), 556–7 (Nov. 1973); CPM-7403D0096

Fromzel, V. A.—Special Features of Neodymium Glass Generation at a Wavelength of 0.92 μm —O. D. Gavrilov, A. A. Mak, D. S. Prilezhaev, V. I. Ustyugov and V. A. Fromzel. **34**(1), 77–80 (Jan. 1973); CPM-7308D0101

Fromzel, V. A.—Gain of a laser amplifier in regenerative and super-regenerative modes —A. A. Mak, V. I. Ustyugov and V. A. Fromzel. **35**(5), 528–31 (Nov. 1973); CPM-7403D0068

Furashov, N. I.—Measurement of the parameters of the absorption line $\lambda_0 = 398$ μm in the rotational spectrum of water vapor —V. Ya. Ryadov and N. I. Furashov. **35**(3), 255–7 (Sep. 1973); CPM-7312F1531

Furer, V. L.—Raman spectrum of polycarbonates excited by a laser —V. L. Furer and L. I. Maklakov. **34**(2), 239–40 (Feb. 1973); CPM-7310E0201

Fursov, G. L.—Spectral distribution of ionization glow of air excited by relativistic electrons —V. D. Volovik, V. V. Petrenko, G. F. Popov and G. L. Fursov. **35**(3), 331–2 (Sep. 1973); CPM-7312F1607

Futorskii, D. L. L.—Optical Absorption and Luminescence Spectra of Zinc- and Cadmium-Tungstate Single Crystals Activated with Chromium (Cr^{3+}) —A. E. Nosenko and D. L. L. Futorskii. **34**(3), 286–7 (Mar. 1973); CPM-7310E0248

G

Gaevoi, G. M.—Temperature broadening and shift of phononless lines in the spectra of crystalline uranyl compound with a polymer-type structure —R. N. Shchelokov, G. V. Ellert, V. E. Karasev, Yu. I. Krasilov and G. M. Gaevoi. **35**(5), 570–1 (Nov. 1973); CPM-7403D0110

Gaigerova, L. S.—Optical spectra and interaction of rare earth ions in doubly activated fluorite crystals —S. Kh. Batygov, Yu. K. Voronko, L. S. Gaigerova and V. S. Federov. **35**(5), 505–8 (Nov. 1973); CPM-7403D0045

Gainer, A. V.—Theory of image conversion in nonlinear optical systems —A. V. Gainer, G. V. Krivoshchekov and R. I. Sokolovskii. **34**(2), 225–6 (Feb. 1973); CPM-7310E0187

Galanin, M. D.—Absorption Spectra of Excited Molecules of Cyanine Dyes —M. D. Galanin and Z. A. Chizhikova. **34**(1), 110–1 (Jan. 1973); CPM-7308D0134

Galanov, E. K.—Temperature dependence of the ir absorption bands of crystals containing complex ions —E. K. Galanov. **35**(6), 654–6 (Dec. 1973); CPM-7404E0072

Galkin, V. D.—Line shifts in the A oxygen band as a function of the pressure —V. D. Galkin. **35**(4), 367–9 (Oct. 1973); CPM-7402D0109

Galpern, A. D.—Improvement of image quality in observation through scattering media —A. D. Galpern. **35**(1), 81–3 (Jul. 1973); CPM-7312F1839

Galpern, D. Yu.—Chromatic aberrations of real rays —D. Yu. Galpern and O. V. Pronina. **34**(2), 211–4 (Feb. 1973); CPM-7310E0173

Ganin, V. A.—Calculation of the states of a Ce^{3+} ion in fluorite-type crystals —N. V. Starostin, P. F. Gruzdev, V. A. Ganin and T. E. Chebotareva. **35**(3), 277–80 (Sep. 1973); CPM-7312F1553

Gantseva, N. L.—Anisotropy of the molar refraction of liquid crystalline p, p'-dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35** (5), 511–2 (Nov. 1973); CPM-7403D0051

Garber, P. R.—Polarized phosphorescence and absorption of crystalline silver nitrite —L. E. Reznik and P. R. Garber. **34**(2), 237–8 (Feb. 1973); CPM-7310E0199

Garga, I. I.—Electron–impact excitation of alkaline earth atoms. 1. magnesium —I. S. Aleksakhin, I. P. Zapesochnyi, I. I. Garga and V. P. Starodub. **34**(6), 611–5 (Jun. 1973); CPM-7311E0173

Garga, I. I.—Electron–impact excitation of alkaline earth atoms. Part 2: Strontium singlets —V. P. Starodub, I. S. Aleksakhin, I. I. Garga and I. P. Zapesochnyi. **35**(6), 603–6 (Dec. 1973); CPM-7404E0021

Gastilovich, E. A.—Calculation of the frequencies of the in–plane vibrations of nitrobenzene —K. M. Danchinov, E. A. Gastilovich, A. N. Rodionov and D. N. Shigorin. **34**(4), 456–8 (Apr. 1973); CPM-7310E0418

Gastilovich, E. A.—Intensity distribution in electronic–vibrational progressions of the 9,10–anthraquinone luminescence spectrum — N. S. Smirnov, E. A. Gastilovich and D. N. Shigorin. **35**(2), 140–2 (Aug. 1973); CPM-7312F0064

Gavrilov, F. F.—Measuring technique for parameter for losses in cavities of solid state lasers —M. G. Zuev, A. L. Shalyapin and F. F. Gavrilov. **34**(4), 459–60 (Apr. 1973); CPM-7310E0421

Gavrilov, F. F.—Luminescence and excitation spectra of LiH and LiD single crystals at low temperatures —L. A. Rebane, B. V. Vlasov, F. F. Gavrilov, S. O. Cholakh and V. D. Pirogov. **35**(1), 91–2 (Jul. 1973); CPM-7312F1849

Gavrilov, O. D.—Special Features of Neodymium Glass Generation at a Wavelength of 0.92 μm —O. D. Gavrilov, A. A. Mak, D. S. Prilezhaev, V. I. Ustyugov and V. A. Fromzel. **34**(1), 77–80 (Jan. 1973); CPM-7308D0101

Gerasimov, G. N.—Mechanism of recombination in helium —N. V. Afanasev, G. N. Gerasimov and G. P. Startseva. **34**(4), 382–4 (Apr. 1973); CPM-7310E0344

Gerchikov, A. S.—Optical properties of bismuth thin films —A. I. Usoskin, I. N. Shklyarevskii, A. S. Gerchikov and Yu. S. Verlinskii. **34**(5), 549–51 (May 1973); CPM-7311E0111

Gerlovin, I. Ya.—UV Luminescence and Nonlinear Quenching in Ruby —I. Ya. Gerlovin and N. A. Tolstoi. **34**(1), 69–71 (Jan. 1973); CPM-7308D0093

Gershtein, L. I.—High–sensitivity millimeter and submillimeter wide–range microwave spectroscopy of gases —S. P. Belov, A. V. Burenin, L. I. Gershtein, V. V. Korolikhin and A. F. Krupnov. **35** (2), 172–6 (Aug. 1973); CPM-7312F0096

Gilyanovskii, P. V.—Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Gimaev, A. G.—Optical studies of inhomogeneities of metal layers deposited in vacuum —E. Idchak, R. G. Yarovaya, I. N. Shklyarevskii and A. G. Gimaev. **34**(2), 183–5 (Feb. 1973); CPM-7310E0145

Gindina, R. I.—Luminescence Centers in KBr–TlBr Single Crystals with TlBr Concentrations up to 20 mol.% —R. I. Gindina, A. A. Elango, A. A. Khaav, A. A. Maaroos and A. A. Tsirk. **34**(1), 63–6 (Jan. 1973); CPM-7308D0087

Girin, O. P.—Influence of intermolecular interactions on the vibrational spectra of molecules, X. Intensities of the infrared absorption bands of H_2O and SO_2 molecules —S. Kh. Akopyan, O. P. Girin, A. M. Kokushkin and N. G. Bakhshiev. **34**(2), 147–9 (Feb. 1973); CPM-7310E0109

Girin, O. P.—Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

Gisin, M. A.—Optical properties of special narrow–band interference filters for the infrared spectral region —I. N. Shklyarevskii, R. I. Umerov, M. A. Gisin and E. E. Sitnikov. **35**(4), 447–8 (Oct. 1973); CPM-7402D0189

Gizatullin, R. K.—Effect of hologram aberrations on image quality — G. N. Buinov, R. K. Gizatullin and K. S. Mustafin. **34**(4), 443–6 (Apr. 1973); CPM-7310E0405

Gladkikh, L. P.—Relationship between fluorescence spectra of impurity molecules and phase transitions in crystalline cyclopentane —L. P. Gladkikh and L. A. Klimova. **34**(2), 161–2 (Feb. 1973); CPM-7310E0123

Glauberman, A. E.—Effect of size quantization on the Faraday effect in an electron gas —A. E. Glauberman and B. N. Khlopkov. **35**(5), 564–5 (Nov. 1973); CPM-7403D0104

Glebov, L. B.—Distribution of short–lived color centers over a section of laser neodymium–glass rod —L. B. Glebov and M. N. Tolstoi. **34**(5), 572–3 (May 1973); CPM-7311E0134

Glozman, Ts. I.—Absorption of He–Ne laser radiation by an iodine molecular beam —N. R. Batarchukova, Ts. I. Glozman and A. I. Kartashev. **34**(2), 233–4 (Feb. 1973); CPM-7310E0195

Glyadkovskii, V. I.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Glyadkovskii, V. I.—Spectral evidence of matrix–isolated and collective centers in frozen n–paraffin solutions —L. A. Klimova, A. I. Ogloblina, G. N. Nersesova and V. I. Glyadkovskii. **35**(5), 488–90 (Nov. 1973); CPM-7403D0028

Gnyp, R. G.—Effect of fiberglass on the frequency–contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416

Godnev, I. N.—Calculation of the Coriolis Coupling Constants of XH(Hal)$_3$ Molecules (X = C, Si) —V. S. Timoshinin, Yu. A. Aleshonkova and I. N. Godnev. **34**(1), 115–6 (Jan. 1973); CPM-7308D0139

—Infrared spectrum of TiI_4 in the 380–900 cm^{-1} range —V. A. Lapin and I. N. Godnev. **34**(6), 720 (Jun. 1973); CPM-7311E0282

Godomskii, O. N.—Scattering of light by coherent systems —O. N. Godomskii and V. R. Nagibarov. **34**(2), 218–20 (Feb. 1973); CPM-7310E0180

Gogolev, A. V.—Two modifications of phosphorus tribromide —A. T. Kozulin, A. V. Gogolev, V. I. Karmanov and V. A. Murtsovkin. **34** (6), 708–9 (Jun. 1973); CPM-7311E0270

Goldenberg, A. B.—Thermal Coagulation of F Centers in KCl Crystals Doped with Alkali Metals —V. V. Golubtsov and A. B. Goldenberg. **34**(3), 291–3 (Mar. 1973); CPM-7310E0253

Golubeva, N. G.—Effect of Parameters of Spontaneous Raman Lines on the Spectral Composition of Stimulated Raman Scattering —I. I. Kondilenko, P. A. Korotkov, V. I. Malyi and N. G. Golubeva. **34**(3), 271–3 (Mar. 1973); CPM-7310E0233

Golubovskii, Yu. B.—Emission of a continuous spectrum of electron deceleration by atoms in the positive column of argon discharge — Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **34**(2), 127–8 (Feb. 1973); CPM-7310E0089

Golubovskii, Yu. B.—Atomic temperatures and broadening of spectral lines in the positive column of an argon discharge —Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **35**(1), 8–10 (Jul. 1973); CPM-7312F1766

—Diagnostics of a discharge in neon at moderate pressures using the bremsstrahlung continuum —Yu. B. Golubovskii, V. A. Ivanov and Yu. M. Kagan. **35**(2), 124–6 (Aug. 1973); CPM-7312F0048

Golubtsov, V. V.—Thermal Coagulation of F Centers in KCl Crystals Doped with Alkali Metals —V. V. Golubtsov and A. B. Goldenberg. **34**(3), 291–3 (Mar. 1973); CPM-7310E0253

Gorban, N. Ya.—Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

—Optical properties of nickel–chromium alloys in the 250 to 1100 nm spectral region —N. Ya. Gorban, V. S. Stashchuk, P. V. Petrenko and A. A. Shishlovskii. **35**(4), 400–2 (Oct. 1973); CPM-7402D0142

Gorchakov, L. V.—Stark shifts of the $3p^5ns$ levels in atomic argon — L. V. Gorchakov and P. F. Gruzdev. **35**(2), 224–5 (Aug. 1973); CPM-7312F0148

—Stark shifts of ns levels of krypton and xenon atoms —L. V. Gorchakov and P. F. Gruzdev. **35**(3), 347 (Sep. 1973); CPM-7312F1623

Gorskii, S. M.—Correlation method of attenuating the effect of random multiplicative noise in Fourier spectroscopy —S. M. Gorskii and V. P. Lebedev. **35**(5), 544–6 (Nov. 1973); CPM-7403D0084

Gribovskii, S. A.—Absorption coefficients of rare-earth elements of the lanthanum group in the ultrasoft X-ray region —S. A. Gribovskii and T. M. Zimkina. **35**(1), 104–5 (Jul. 1973); CPM-7312F1862

Grigoreva, V. N.—Stark constant β_1 of the $6^2P_{3/2}$ state of Rb^{85} —V. N. Grigoreva, G. I. Khvostenko and M. P. Chaika. **34**(6), 712–4 (Jun. 1973); CPM-7311E0274

Grinko, I. E.—Spin relaxation of Hg^{199}, Hg^{201} optically oriented atoms in a nonuniform magnetic field —I. E. Grinko, A. N. Kuznetsova, P. S. Ovcharenko, B. I. Vintenkov and Yu. M. Petukhov. **34**(5), 576–7 (May 1973); CPM-7311E0138

Grinko, I. E.—Effect of x-ray irradiation of cells on nuclear relaxation of optically oriented Hg^{199} and Hg^{201} atoms —A. N. Kuznetsov, I. E. Grinko and V. F. Terzeman. **35**(3), 238–9 (Sep. 1973); CPM-7312F1514

Grodnikov, A. I.—Distortion and phase-frequency characteristics of objectives —K. G. Predko and A. I. Grodnikov. **34**(5), 569–71 (May 1973); CPM-7311E0131

Grosul, V. P.—Phosphorescence of aromatic compounds at 77 K, 20 K, and 4 K. Quasilinear spectra of diphenylene oxide at 4 K —P. A. Teplyakov, V. P. Grosul and Yu. R. Redkin. **34**(6), 662–4 (Jun. 1973); CPM-7311E0224

Gruzdev, P. F.—Radiation Lifetimes of Levels of the Na II Ion —P. F. Gruzdev and A. V. Loginov. **34**(3), 352–3 (Mar. 1973); CPM-7310E0314

—Radiation lifetimes for levels of the Mg III ion —P. F. Gruzdev and A. V. Loginov. **34**(4), 469–70 (Apr. 1973); CPM-7310E0431

Gruzdev, P. F.—Neon. Radiative lifetimes for the levels of the $2p^5ms$, $2p^5np$, $2p^5nd$ (m = 3–6, n = 3–5) and $2p^54f$ configurations — P. F. Gruzdev and A. V. Loginov. **35**(1), 1–3 (Jul. 1973); CPM-7312F1759

—Stark shifts of the $3p^5ns$ levels in atomic argon —L. V. Gorchakov and P. F. Gruzdev. **35**(2), 224–5 (Aug. 1973); CPM-7312F0148

—Calculation of the states of a Ce^{3+} ion in fluorite-type crystals —N. V. Starostin, P. F. Gruzdev, V. A. Ganin and T. E. Chebotareva. **35**(3), 277–80 (Sep. 1973); CPM-7312F1553

—Stark shifts of ns levels of krypton and xenon atoms —L. V. Gorchakov and P. F. Gruzdev. **35**(3), 347 (Sep. 1973); CPM-7312F1623

—Radiation lifetimes for the levels of the KII ion —A. V. Loginov and P. F. Gruzdev. **35**(5), 578–81 (Nov. 1973); CPM-7403D0118

Gruzdeva, N. S.—Diagnostics of a nonequilibrium Cd–He arc plasma —V. Ya. Aleksandrov, N. S. Gruzdeva, D. B. Gurevich and I. V. Podmoshenskii. **34**(5), 494–7 (May 1973); CPM-7311E0056

Gryaznova, I. P.—Three-Ring Effect in Flexible Fiber Optics Bundles —G. Ya. Konaeva, D. K. Sattarov, T. D. Kulda and I. P. Gryaznova. **34**(1), 98–100 (Jan. 1973); CPM-7308D0122

Gudkov, Yu. P.—Theory of the locking phenomenon in a gas ring laser. I —Yu. P. Gudkov and N. N. Rozanov. **35**(4), 426–31 (Oct. 1973); CPM-7402D0168

—Theory of locking in a gas ring laser. Part 2 —Yu. P. Gudkov. **35**(5), 532–6 (Nov. 1973); CPM-7403D0072

Gulakov, I. R.—Mechanism of radiation-induced and photoexcited scintillations in CsI–Tl —I. R. Gulakov and A. N. Pertsev. **35**(3), 286–8 (Sep. 1973); CPM-7312F1562

Gunderova, L. N.—Microwave spectrum, internal rotation, and dipole moment of 3-methylthiophene —L. N. Gunderova, A. A. Shapkin and N. M. Pozdeev. **34**(6), 703–4 (Jun. 1973); CPM-7311E0265

Günther, K.—Calculation of radiative properties of xenon pulsed light sources from energy balance —K. Günther. **34**(6), 620–3 (Jun. 1973); CPM-7311E0182

Gurari, M. L.—Holographic spectroscopy of ultrahigh resolution — M. L. Gurari, G. I. Rukman and V. K. Sakharov. **34**(6), 715–6 (Jun. 1973); CPM-7311E0277

Gurev, K. I.—Effect of Nonadiabaticity on Line Intensities in the Vibronic Spectra of Europium Complexes —K. I. Gurev and M. A. Kovner. **34**(1), 104–6 (Jan. 1973); CPM-7308D0128

Gurevich, D. B.—Recombination Emission of an Argon Plasma above the Cutoff Frequency —V. Ya. Aleksandrov, D. B. Gurevich and I. V. Podmoshenskii. **34**(1), 12–3 (Jan. 1973); CPM-7308D0036

—Diagnostics of a nonequilibrium Cd–He arc plasma —V. Ya. Aleksandrov, N. S. Gruzdeva, D. B. Gurevich and I. V. Podmoshenskii. **34**(5), 494–7 (May 1973); CPM-7311E0056

Gurinovich, G. P.—Photochemical Method for Determining the Efficiency of the Conversion of Molecules into the Triplet State — O. M. Petsold, I. M. Byteva and G. P. Gurinovich. **34**(3), 343–4 (Mar. 1973); CPM-7310E0305

Gusakova, G. V.—Identification of the $\nu P{=}O$ and $\nu C{-}O$ Bands in the Infrared Spectra of Complexes of Trimethylphosphine Oxide with Carboxylic Acids —G. V. Gusakova, E. V. Ryltsev and A. L. Smolyanskii. **34**(3), 262–4 (Mar. 1973); CPM-7310E0224

I

Idchak, E.—Optical studies of inhomogeneities of metal layers deposited in vacuum —E. Idchak, R. G. Yarovaya, I. N. Shklyarevskii and A. G. Gimaev. **34**(2), 183–5 (Feb. 1973); CPM-7310E0145

Ilyushchenko, V. V.—Calculation of optical absorption spectra for paramagnetic ions —N. G. Vanyushina, V. V. Ilyushchenko, A. N. Men and Yu. N. Rezchikov. **35**(6), 638–40 (Dec. 1973); CPM-7404E0056

Imenitov, A. B.—Spectral dependences of the photoconductivity of anthracene single crystals with electrolytic injecting contacts —R. I. Kukhtin, A. B. Imenitov, B. T. Lozhkin and L. I. Boguslavskii. **35**(5), 491–3 (Nov. 1973); CPM-7403D0031

Imre, A. I.—Excitation cross sections of bands of the first negative system of nitrogen in electron–ion collisions —A. I. Dashchenko, I. P. Zapesochnyi and A. I. Imre. **35**(5), 562–3 (Nov. 1973); CPM-7403D0102

Iogansen, L. V.—Model of Collective π-Electron Motion in Molecules. Part 1. —L. V. Iogansen. **34**(3), 246–51 (Mar. 1973); CPM-7310E0208

Ionikh, Yu. Z.—Excitation of neon 2p–4d lines during collision of the second kind with helium atoms in the 2^1S_0 state —Yu. Z. Ionikh, N. P. Penkin and A. L. Kuranov. **34**(4), 471 (Apr. 1973); CPM-7310E0433

Ippolitov, I. I.—Calculation of intensities for water-vapor spectral lines in bands of the first overtone and combination frequencies — O. K. Voitsekhovskaya, I. I. Ippolitov and Yu. S. Makushkin. **35**(1), 24–6 (Jul. 1973); CPM-7312F1782

Isaev, A. A.—Copper vapor pulsed laser with a repetition frequency of 10 kHz —A. A. Isaev, M. A. Kazaryan and G. G. Petrash. **35**(3), 307–8 (Sep. 1973); CPM-7312F1583

Isaev, R. S.—Energy losses of a charges particle moving in a medium with weak scattering —B. M. Bolotovskii and R. S. Isaev. **35**(4), 450–1 (Oct. 1973); CPM-7402D0192

Ivakin, E. V.—Self-diffraction of coherent radiation interacting with transparent substances —A. S. Rubanov and E. V. Ivakin. **34**(6), 686–8 (Jun. 1973); CPM-7311E0248

Ivanenko, Yu. M.—Observation of hyperfine splitting in iodine atoms by means of spontaneous emission in pulsed photolysis of CF_3I — V. Yu. Zelesskii, Yu. M. Ivanenko and T. I. Krupenikova. **34**(6), 618–9 (Jun. 1973); CPM-7311E0180

Ivanov, A. A.—Experimental study of the phenomenon of vibronic coupling in intramolecular dimers for the strong bonding case —A. A. Ivanov, A. A. Puretskii and V. I. Permogorov. **35**(3), 265–8 (Sep. 1973); CPM-7312F1541

Ivanov, A. P.—Scattering of light by a layer of various degrees of dispersion —A. P. Ivanov, A. P. Prishivalko and E. K. Naumenko. **35**(5), 522–4 (Nov. 1973); CPM-7403D0062

—Autocorrelation function of doubly scattered radiation —A. P. Ivanov, A. Ya. Khairullina and A. P. Chaikovskii. **35**(6), 668–71 (Dec. 1973); CPM-7404E0086

Ivanov, E. N.—Theory of Rayleigh Light Scattering —K. A. Valiev and E. N. Ivanov. **34**(1), 87–9 (Jan. 1973); CPM-7308D0111

Ivanov, E. N.—Contribution to the theory of light scattering by diatomic molecules —E. N. Ivanov and K. A. Valiev. **35**(2), 169–71 (Aug. 1973); CPM-7312F0093

Ivanov, G. K.—Interaction between excited atoms and molecule —F. I. Dalidchik and G. K. Ivanov. **34**(5), 498–500 (May 1973); CPM-7311E0060

Ivanov, V. A.—Diagnostics of a discharge in neon at moderate pressures using the bremsstrahlung continuum —Yu. B. Golubovskii, V. A. Ivanov and Yu. M. Kagan. **35**(2), 124–6 (Aug. 1973); CPM-7312F0048

Ivanov, V. N.—Use of Fourier transforms in the determination of Voigt profile components —V. N. Ivanov and I. S. Fishman. **35**(6), 679–81 (Dec. 1973); CPM-7404E0097

Ivanova, I. N.—Comparative study of optical activity in α-$NiSO_4.6H_2O$ and α-$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Ivlev, A. A.—Calculation of the frequencies and forms of the normal vibrations of pyrrolidine and ND-pyrrolidine —Tran Suan Khoan, Yu. A. Pentin and A. A. Ivlev. **35**(6), 616–8 (Dec. 1973); CPM-7404E0034

Ivlev, L. S.—Optical constants of Fe_2O_3 in the infrared range of the spectrum —S. I. Popova, T. S. Tolstykh and L. S. Ivlev. **35**(5), 551 (Nov. 1973); CPM-7403D0091

K

Kachan, A. A.—A spectral–luminescence study of phototransformations of anthraquinone in hexane —N. I. Litsov, L. A. Negievich and A. A. Kachan. **34**(4), 473–4 (Apr. 1973); CPM-7310E0435

Kagan, Yu. M.—Emission of a continuous spectrum of electron deceleration by atoms in the positive column of argon discharge — Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **34**(2), 127–8 (Feb. 1973); CPM-7310E0089

Kagan, Yu. M.—Atomic temperatures and broadening of spectral lines in the positive column of an argon discharge —Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **35**(1), 8–10 (Jul. 1973); CPM-7312F1766

—Excitation of helium in a hollow–cathode discharge. Part 1 —Yu. M. Kagan and A. S. Taroyan. **35**(2), 120–3 (Aug. 1973); CPM-7312F0044

—Diagnostics of a discharge in neon at moderate pressures using the bremsstrahlung continuum —Yu. B. Golubovskii, V. A. Ivanov and Yu. M. Kagan. **35**(2), 124–6 (Aug. 1973); CPM-7312F0048

—Excitation of a He–Ne mixture in a hollow–cathode discharge. II — Yu. M. Kagan and A. S. Taroyan. **35**(3), 245–7 (Sep. 1973); CPM-7312F1521

—Intensities of ionic and atomic lines in a hollow cathode —Yu. M. Kagan, R. I. Lyagushchenko and S. N. Khvorostovskii. **35**(3), 248–50 (Sep. 1973); CPM-7312F1524

—Excitation of He–Ne–H_2 mixture in a hollow–cathode discharge. III. —Yu. M. Kagan and A. S. Taroyan. **35**(3), 334–5 (Sep. 1973); CPM-7312F1610

Kakichashvili, Sh. D.—Holographic recording without a reference wave —Sh. D. Kakichashvili. **34**(5), 537–8 (May 1973); CPM-7311E0099

Kalintsev, A. G.—Nonlinear Controlled–Dispersion Spectrograph — R. B. Andreev, V. D. Volosov and A. G. Kalintsev. **34**(1), 102–3 (Jan. 1973); CPM-7308D0126

Kalintsev, A. G.—Generation of the second optical harmonic in a lithium iodate crystal under (oee) wave interaction —A. G. Kalintsev, V. D. Volosov and R. B. Andreev. **35**(1), 96 (Jul. 1973); CPM-7312F1854

Kanetsyan, E. G.—Scattering of strong polarized waves by a two–level atom —V. M. Arutyunyan, E. G. Kanetsyan and V. O. Chaltykyan. **35**(2), 186–8 (Aug. 1973); CPM-7312F0110

Kaplyanskii, A. A.—Polarized Luminescence of CaF_2–Yb^{2+} Crystals —A. A. Kaplyanskii and P. L. Smolyanskii. **34**(3), 361–2 (Mar. 1973); CPM-7310E0323

Kaplyanskii, A. A.—Symmetry in the Raman scattering of light by cubic crystals with localized centers —A. A. Kaplyanskii and Y. K. Negodyiko. **35**(3), 269–73 (Sep. 1973); CPM-7312F1545

—Quadratic pseudo–Stark splitting of a phononless line of N_1 color centers in lithium fluoride —A. A. Kaplyanskii, V. N. Medvedev and A. P. Skvortsov. **35**(4), 382–4 (Oct. 1973); CPM-7402D0124

Karamyan, A. A.—Energy spectra of the layered antiferromagnets Li_3NiF_4, K_2NiF_4 and Rb_2NiF_4 —R. V. Pisarev, A. A. Karamyan, N. N. Nesterova and P. P. Syrnikov. **35**(1), 88–9 (Jul. 1973); CPM-7312F1846

Karapetyan, G. O.—Transformation of neodymium–laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

Karasev, V. E.—Temperature broadening and shift of phononless lines in the spectra of crystalline uranyl compound with a polymer–type structure —R. N. Shchelokov, G. V. Ellert, V. E. Karasev, Yu. I. Krasilov and G. M. Gaevoi. **35**(5), 570–1 (Nov. 1973); CPM-7403D0110

Karmanov, V. I.—Two modifications of phosphorus tribromide —A. T. Kozulin, A. V. Gogolev, V. I. Karmanov and V. A. Murtsovkin. **34**(6), 708–9 (Jun. 1973); CPM-7311E0270

Karpova, V. A.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Kartashev, A. I.—Absorption of He–Ne laser radiation by an iodine molecular beam —N. R. Batarchukova, Ts. I. Glozman and A. I. Kartashev. **34**(2), 233–4 (Feb. 1973); CPM-7310E0195

Kask, N. E.—Radiation–induced defects in fluorite unstable at 77 K —N. E. Kask, L. S. Kornienko and P. V. Chernov. **35**(6), 683–4 (Dec. 1973); CPM-7404E0101

Kasyanov, Yu. S.—Intrashell transitions in the spectra of multicharged phosphorus ions —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev and R. V. Serov. **35**(6), 586–9 (Dec. 1973); CPM-7404E0004

Kataev, B. S.—The fluorine anomaly in a series of optically active α–haloketones —B. S. Kataev and M. P. Kruchek. **34**(2), 166–7 (Feb. 1973); CPM-7310E0128

Kats, M. L.—Optimum parameters of a Fabry–Perot interferometer in studies of the Voigt contour using Fourier interferogram coefficients —A. G. Velichko, M. L. Kats and V. I. Tsoi. **35**(4), 440–2 (Oct. 1973); CPM-7402D0182

Kaveeva, Z. M.—Light–echo study of hyperfine and superhyperfine interactions —Z. M. Kaveeva and V. V. Samartsev. **35**(2), 219–20 (Aug. 1973); CPM-7312F0143

—Polaron superradiation —V. V. Samartsev and Z. M. Kaveeva. **35** (5), 560–1 (Nov. 1973); CPM-7403D0100

Kazakov, V. P.—Photoluminescence and phototransfer of an electron in acid aqueous solutions of Eu(II) —R. G. Bulgakov, V. P. Kazakov and V. N. Korobeinikova. **35**(5), 497–500 (Nov. 1973); CPM-7403D0037

—Temperature dependence of the lifetime of excited UO_2^{2+} ions in frozen sulfuric acid solutions: role of structural transitions —V. P. Kazakov, V. N. Korobeinikov, Yu. N. Chuvilin, V. V. Rykova and I. G. Kovelzon. **35**(5), 576–7 (Nov. 1973); CPM-7403D0116

Kazantsev, S.—Some experiments in the study of implicit alignment —S. Kazantsev, V. Markov and M. Chaika. **34**(5), 492–3 (May 1973); CPM-7311E0054

Kazantsev, S. A.—Alignment of excited helium-atoms in a direct–current discharge —S. A. Kazantsev, A. Kisling and M. P. Chaika. **34**(6), 714–5 (Jun. 1973); CPM-7311E0276

Kazaryan, M. A.—Copper vapor pulsed laser with a repetition frequency of 10 kHz —A. A. Isaev, M. A. Kazaryan and G. G. Petrash. **35**(3), 307–8 (Sep. 1973); CPM-7312F1583

Kazhlaev, M. A.—Stimulated Raman scattering in gypsum —M. A. Kazhlaev, B. M. Ataev and M. I.-A. Shtanchaev. **34**(6), 661 (Jun. 1973); CPM-7311E0223

Khaav, A. A.—Luminescence Centers in KBr–TlBr Single Crystals with TlBr Concentrations up to 20 mol.% —R. I. Gindina, A. A. Elango, A. A. Khaav, A. A. Maaroos and A. A. Tsirk. **34**(1), 63–6 (Jan. 1973); CPM-7308D0087

Khachkuruzov, G. A.—Molecular constants of hydrogen peroxide. III. Vibrational–rotational constants —G. A. Khachkuruzov and I. N. Przhevalskii. **35**(2), 216–7 (Aug. 1973); CPM-7312F0140

Khaidarov, A. V.—Electrooptical and piezoelectric tuning of a compound cavity of a semiconductor laser —P. G. Eliseev and A. V. Khaidarov. **34**(2), 194–5 (Feb. 1973); CPM-7310E0156

Khaidarov, K.—Emission of a ruby laser under Co^{60} gamma radiation —M. R. Bedilov and K. Khaidarov. **34**(4), 441–2 (Apr. 1973); CPM-7310E0403

Khaikin, B. E.—Elimination of diffraction orders from synthesized binary holograms —L. Sh. Egiazaryan, S. Kh. Oganesyan, B. E. Khaikin and V. S. Khitrova. **35**(4), 444–5 (Oct. 1973); CPM-7402D0186

Khairullina, A. Ya.—Autocorrelation function of doubly scattered radiation —A. P. Ivanov, A. Ya. Khairullina and A. P. Chaikovskii. **35**(6), 668–71 (Dec. 1973); CPM-7404E0086

Khakhaev, A. D.—Use of nonself–reversed line profiles for plasma diagnostics in the burner of a metal–haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

Khalfin, L. A.—Experiments to improve image quality —L. A. Khalfin, T. A. Pavlichuk and M. Ya. Shulman. **35**(4), 443–4 (Oct. 1973); CPM-7402D0185

Khalilov, V. R.—Frequency Shift in Scattering of a Plane Wave by Electrons in a Static Magnetic Field —V. R. Khalilov and B. V. Kholomai. **34**(1), 41–3 (Jan. 1973); CPM-7308D0065

Khapalyuk, A. P.—Reflection of a laser beam from the interface of isotopic dielectrics —A. M. Belskii and A. P. Khapalyuk. **35**(1), 67–8 (Jul. 1973); CPM-7312F1825

Kharchenko, N. F.—Special Features of ir Absorption and Fluorescence of Products of Benzophenone Photochemical Reactions —V. I. Melnik, G. A. Puchkovskaya, N. F. Kharchenko and M. P. Shpak. **34**(1), 54–6 (Jan. 1973); CPM-7308D0078

Kharchenko, N. P.—Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Khartung, K.—Longitudinal alignment of the lasing levels of a helium–neon laser —V. A. Polishchuk, G. Todorov, K. Khartung and M. P. Chaika. **34**(6), 709–11 (Jun. 1973); CPM-7311E0271

Khashkhozhev, Z. M.—Luminescence of chromium–ion pairs in ruby in the region of antistokes phonon satellites of the R-lines —L. P. Nikitin, A. Ya. Ryskin and Z. M. Khashkhozhev. **35**(4), 454–5 (Oct. 1973); CPM-7402D0196

Khitrova, V. S.—Elimination of diffraction orders from synthesized binary holograms —L. Sh. Egiazaryan, S. Kh. Oganesyan, B. E. Khaikin and V. S. Khitrova. **35**(4), 444–5 (Oct. 1973); CPM-7402D0186

Khizhnyakov, V. V.—Temperature depolarization of the luminescence of KCl–Sn^{2+} type centers —N. N. Kristofel and V. V. Khizhnyakov. **34**(6), 721–2 (Jun. 1973); CPM-7311E0283

Khlopkov, B. N.—Effect of size quantization on the Faraday effect in an electron gas —A. E. Glauberman and B. N. Khlopkov. **35**(5), 564–5 (Nov. 1973); CPM-7403D0104

Kho, Le Khyu—Raman spectrum of liquid glyoxal, $C_2O_2H_2$ —Le Khyu Kho and V. I. Tyulin. **35**(4), 445–7 (Oct. 1973); CPM-7402D0187

Khoan, Tran Suan—Calculation of the frequencies and forms of the normal vibrations of pyrrolidine and ND–pyrrolidine —Tran Suan Khoan, Yu. A. Pentin and A. A. Ivlev. **35**(6), 616–8 (Dec. 1973); CPM-7404E0034

Khodovoi, V. A.—Induced Circular Birefringence in Rubidium Vapor —A. M. Bonch-Bruevich, V. A. Khodovoi and V. V. Khromov. **34** (1), 109–10 (Jan. 1973); CPM-7308D0133

Kholomai, B. V.—Frequency Shift in Scattering of a Plane Wave by Electrons in a Static Magnetic Field —V. R. Khalilov and B. V. Kholomai. **34**(1), 41–3 (Jan. 1973); CPM-7308D0065

Khoroshkov, Yu. V.—Polarization contrast method in holography —I. A. Deryugin, V. N. Kurashov, D. V. Podanchuk and Yu. V. Khoroshkov. **35**(2), 195–9 (Aug. 1973); CPM-7312F0119

Khramtsov, V. A.—Nature of EPR Signals in Nuclear Photoemulsions —R. A. Zhitnikov, N. P. Kocherov, N. G. Romanov and V. A. Khramtsov. **34**(1), 106–7 (Jan. 1973); CPM-7308D0130

Khramtsova, V. I.—Effect of absorbed moisture on the position of the passband of narrow-band interference filters —I. N. Shklyarevskii, R. I. Umerov, E. A. Lupashko and V. I. Khramtsova. **35**(2), 206–8 (Aug. 1973); CPM-7312F0130

Khristenko, S. V.—Dispersion interaction of hydrogen atoms in excited states —A. F. Shestakov, S. I. Vetchinkin and S. V. Khristenko. **35**(4), 355–7 (Oct. 1973); CPM-7402D0097

Khromov, V. V.—Induced Circular Birefringence in Rubidium Vapor —A. M. Bonch-Bruevich, V. A. Khodovoi and V. V. Khromov. **34** (1), 109–10 (Jan. 1973); CPM-7308D0133

Khvorostovskaya, L. E.—Deactivation coefficients of the $O(^1D)$ and $O(^1S)$ metastable atoms in the glow discharge in oxygen —E. A. Koroleva and L. E. Khvorostovskaya. **35**(1), 11–3 (Jul. 1973); CPM-7312F1769

Khvorostovskii, S. N.—Intensities of ionic and atomic lines in a hollow cathode —Yu. M. Kagan, R. I. Lyagushchenko and S. N. Khvorostovskii. **35**(3), 248–50 (Sep. 1973); CPM-7312F1524

Khvostenko, G. I.—Stark constant β_J of the $6^3P_{3/2}$ state of Rb^{85} —V. N. Grigoreva, G. I. Khvostenko and M. P. Chaika. **34**(6), 712–4 (Jun. 1973); CPM-7311E0274

Kien, Phan Dinh—Applicability of the Method of Progressive Rigidity to the Calculation of the Force Fields of Anionic Complexes —Phan Dinh Kien. **34**(3), 257–9 (Mar. 1973); CPM-7310E0219

Kilin, S. F.—Quenching of anthracene fluorescence by carbon tetrachloride —E. A. Andreeshchev, V. S. Viktorova, S. F. Kilin and I. M. Rozman. **34**(5), 530–2 (May 1973); CPM-7311E0092

Kirpichnikova, L. A.—Use of nonself-reversed line profiles for plasma diagnostics in the burner of a metal–haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

Kiselev, A. A.—Selection of moving coordinate systems in the theory of molecules with internal rotation —A. A. Kiselev and A. V. Lyaptsev. **35**(3), 251–4 (Sep. 1973); CPM-7312F1527

Kiselev, B. A.—Theory of the susceptibility of quantum systems with degenerate levels —P. A. Apanasevich, B. D. Fainberg and B. A. Kiselev. **34**(2), 117–9 (Feb. 1973); CPM-7310E0079

Kiselev, B. A.—Photomixing of the main and reference laser beams in the analysis of the frequency composition of laser radiation by optical heterodyning —V. I. Dubkov and B. A. Kiselev. **35**(2), 189–90 (Aug. 1973); CPM-7312F0113

Kishko, S. M.—Effective Excitation Cross Sections of Red System Bands of CN —V. I. Korol and S. M. Kishko. **34**(3), 344 (Mar. 1973); CPM-7310E0306

Kisilitsa, P. P.—The-reflectance spectra of organic polymers in the 5–23.1 eV energy range —L. N. Vinokurova, Yu. A. Cherkasov and P. P. Kisilitsa. **34**(4), 464–6 (Apr. 1973); CPM-7310E0426

Kisling, A.—Alignment of excited helium atoms in a direct-current discharge —S. A. Kazantsev, A. Kisling and M. P. Chaika. **34**(6), 714–5 (Jun. 1973); CPM-7311E0276

Kizel, V. A.—Optical activity of a thallium–uranyl–propionate crystal —Z. M. Alikhanova, V. I. Burkov, V. A. Kizel, Yu. I. Krasilov, V. A. Madii and G. M. Safronov. **34**(5), 573–4 (May 1973); CPM-7311E0135

—Gyrotropy of sillenite–type crystals —V. A. Kizel, V. I. Burkov, Yu. I. Krasilov, N. L. Kozlova, G. M. Safronov and V. N. Batog. **34** (6), 677–80 (Jun. 1973); CPM-7311E0239

Kizel, V. A.—Comparative study of optical activity in α–$NiSO_4.6H_2O$ and α–$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Kleimenov, V. I.—The mechanism of autoionization processes in CS_2 —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(2), 144–6 (Feb. 1973); CPM-7310E0106

—Applicability of the Franck–Condon principle to the autoionization of the N_2 molecule —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(5), 590 (May 1973); CPM-7311E0152

Klementev, V. M.—Collision broadening of the 1.53 μm line of mercury in an Hg–He, Hg–Ne mixture —K. A. Bikmikhametov, V. M. Klementev and V. P. Chebotaev. **34**(6), 616–7 (Jun. 1973); CPM-7311E0178

Klementev, V. M.—Simultaneous lasing on mercury and neon transitions in the composite gaseous mixture Hg–He–Ne —K. A. Bikmukhametov and V. M. Klementev. **35**(1), 105 (Jul. 1973); CPM-7312F1863

Klenin, V. I.—Spectral turbidimetry of concentrated disperse systems —V. I. Klenin, S. Yu. Shchegolev and L. G. Lebedeva. **35**(6), 672–4 (Dec. 1973); CPM-7404E0090

Klimchitskaya, G. L.—Relativistic Calculations of Transition Energies in Multiply-Charged Two-Electron Ions —G. L. Klimchitskaya and L. N. Labzovskii. **34**(3), 349–50 (Mar. 1973); CPM-7310E0311

—Interpolation Formula for Energy Levels of Isoelectronic Atoms and Ions with an Arbitrary Value of the Nuclear Charge $1 \leq Z \leq 137$ — G. L. Klimchitskaya and L. N. Labzovskii. **34**(3), 350–2 (Mar. 1973); CPM-7310E0312

—Relativistic theory for spectra of multiply charged ions —G. L. Klimchitskaya and L. N. Labzovskii. **34**(4), 365–7 (Apr. 1973); CPM-7310E0327

Klimenko, I. S.—Sensitivity and resolution in holographic interferometry of focused images —I. S. Klimenko, E. I. Kucheryavenko and E. G. Matinyan. **34**(2), 203–5 (Feb. 1973); CPM-7310E0165

—Properties of nonlinear recording of focused-image holograms —I. S. Klimenko, E. G. Matinyan and G. V. Skrotskii. **34**(4), 474–5 (Apr. 1973); CPM-7310E0436

Klimontovich, Yu. L.—Theory of Spectral Line Broadening by Electrons in a Nonequilibrium Plasma —E. A. Asmaryan and Yu. L. Klimontovich. **34**(1), 111–2 (Jan. 1973); CPM-7308D0135

Klimontovich, Yu. L.—Spontaneous emission of atoms in an intense field and its relationship to noise in lasers —Yu. L. Klimontovich, A. S. Kovalev and P. S. Landa. **35**(6), 590–2 (Dec. 1973); CPM-7404E0008

Klimova, L. A.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

—Relationship between fluorescence spectra of impurity molecules and phase transitions in crystalline cyclopentane —L. P. Gladkikh and L. A. Klimova. **34**(2), 161–2 (Feb. 1973); CPM-7310E0123

Klimova, L. A.—Spectral evidence of matrix-isolated and collective centers in frozen n-paraffin solutions —L. A. Klimova, A. I. Ogloblina, G. N. Nersesova and V. I. Glyadkovskii. **35**(5), 488–90 (Nov. 1973); CPM-7403D0028

Klimusheva, G. V.—Vibronic structure of absorption spectra of molecular crystals —A. A. Delyukov and G. V. Klimusheva. **35**(6), 648–50 (Dec. 1973); CPM-7404E0066

Klochkov, V. P.—Correlation between the Intensity of a Transition and the Intensity Distribution in the Electronic Spectra of Organic Compounds —V. P. Klochkov and V. L. Bogdanov. **34**(1), 25–8 (Jan. 1973); CPM-7308D0049

Klyucharev, A. N.—Filling of the Upper Levels in the Optical Excitation of Cesium Vapor —A. N. Klyucharev and V. Yu. Sepman. **34**(3), 241–2 (Mar. 1973); CPM-7310E0203

Knubovets, R. G.—Raman spectrum of a single crystal of apatite — D. K. Arkhipenko, B. A. Orekhov and R. G. Knubovets. **34**(4), 425–6 (Apr. 1973); CPM-7310E0387

Knyazhanskii, M. I.—Spectral-luminescent properties of azomethines in the quinoid form. I. Anils 3-oxybenzofuran-2-aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. **35**(6), 610–2 (Dec. 1973); CPM-7404E0028

—Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Kobzar-Zlenko, V. A.—Temperature shift of Nd^{3+} energy levels in $CaWO_4$ crystals —V. I. Bonchkovskii, V. A. Kobzar-Zlenko, S. A. Sazonova and B. S. Skorobogatov. **35**(3), 281–2 (Sep. 1973); CPM-7312F1557

Kochanov, V. P.—Identifying spectrograms from a Fabry-Perot spectrometer —V. P. Kochanov and E. G. Saprykin. **34**(5), 579–81 (May 1973); CPM-7311E0141

Kochelap, V. A.—Theory of a high-pressure infrared chemical laser —V. A. Kochelap and Yu. A. Kukibnyi. **34**(2), 186–90 (Feb. 1973); CPM-7310E0148

Kocherov, N. P.—Nature of EPR Signals in Nuclear Photoemulsions —R. A. Zhitnikov, N. P. Kocherov, N. G. Romanov and V. A. Khramtsov. **34**(1), 106–7 (Jan. 1973); CPM-7308D0130

Kogan, A. V.—Contribution to the theory of an optical micropyrometer —A. V. Kogan. **35**(3), 323–5 (Sep. 1973); CPM-7312F1599

Kogan, B. Ya.—Value of the gain for light internally reflected from a medium with inverted population —S. A. Lebedev, V. M. Volkov and B. Ya. Kogan. **35**(5), 565–6 (Nov. 1973); CPM-7403D0105

Kogan, V. A.—Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Kokushkin, A. M.—Influence of intermolecular interactions on the vibrational spectra of molecules, X. Intensities of the infrared absorption bands of H_2O and SO_2 molecules —S. Kh. Akopyan, O. P. Girin, A. M. Kokushkin and N. G. Bakhshiev. **34**(2), 147–9 (Feb. 1973); CPM-7310E0109

Kolokolov, A. A.—Fluctuations of equilibrium electromagnetic radiation —A. A. Kolokolov and G. V. Skrotskii. **35**(3), 229–30 (Sep. 1973); CPM-7312F1505

—Self-constriction of spherically symmetric pulses in a nonlinear medium —A. A. Kolokolov and G. V. Skrotskii. **35**(5), 520–1 (Nov. 1973); CPM-7403D0060

Kolomiets, I. P.—Anisotropy of the molar refraction of liquid crystalline p, p'-dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35**(5), 511–2 (Nov. 1973); CPM-7403D0051

Kolomiitsova, T. D.—Infrared spectra of cryosystems. I. Linear molecules —V. V. Bertsev, M. O. Bulanin and T. D. Kolomiitsova. **35**(2), 162–4 (Aug. 1973); CPM-7312F0086

Kolomnikov, Yu. D.—He-Ne laser with a nonlinear absorbing gas as delay line —V. I. Bobrik, Yu. D. Kolomnikov and V. P. Chebotaev. **35**(6), 682–3 (Dec. 1973); CPM-7404E0100

Kolosovskaya, L. A.—Calculation of Population Relaxation for Rotational Levels —L. A. Kolosovskaya. **34**(1), 101–2 (Jan. 1973); CPM-7308D0125

Kolosyuk, V. N.—Direct transitions in BiI_3 single crystals in a magnetic field —V. N. Kolosyuk and V. I. Vashchenko. **34**(2), 236–7 (Feb. 1973); CPM-7310E0198

Kolpakov, Yu. D.—Approximate Calculation of Multiple Scattering in Cylindrical Cells —Yu. D. Kolpakov, V. S. Vitkalov and V. P. Skripov. **34**(3), 345–6 (Mar. 1973); CPM-7310E0307

Komarov, A. V.—Spin memory of Eu^{2+} in CaF_2 —A. V. Komarov and S. M. Ryabchenko. **35**(1), 100–1 (Jul. 1973); CPM-7312F1858

—Magnetooptical study of Eu^{2+} in CaF_2 —A. V. Komarov and S. M. Ryabchenko. **35**(4), 388–90 (Oct. 1973); CPM-7402D0130

Komarova, L. L.—Emission of a continuous spectrum of electron deceleration by atoms in the positive column of argon discharge — Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **34**(2), 127–8 (Feb. 1973); CPM-7310E0089

Komarova, L. L.—Atomic temperatures and broadening of spectral lines in the positive column of an argon discharge —Yu. B. Golubovskii, Yu. M. Kagan and L. L. Komarova. **35**(1), 8–10 (Jul. 1973); CPM-7312F1766

Komarovskii, V. A.—Oscillator strengths of Eu I spectral lines in the 2950–2370 Å region —V. A. Komarovskii. **34**(4), 462–3 (Apr. 1973); CPM-7310E0424

Komarovskii, V. A.—Relative values of oscillator strengths of Nd I spectral lines —N. P. Penkin and V. A. Komarovskii. **35**(1), 4–5 (Jul. 1973); CPM-7312F1762

Komarovsky, V. A.—Relative Values of Oscillator Strengths for Spectral Lines of Gd I —N. P. Penkin and V. A. Komarovsky. **34**(1), 1–2 (Jan. 1973); CPM-7308D0025

Komissaruk, V. A.—Correction of fringe curvature in a polarization Wollaston-prism interferometer —V. A. Komissaruk and V. I. Yanichkin. **34**(2), 238–9 (Feb. 1973); CPM-7310E0200

Konaeva, G. Ya.—Microcontrast of Fiber Optics Elements —D. K. Sattarov, A. A. Lunkina and G. Ya. Konaeva. **34**(1), 95–7 (Jan. 1973); CPM-7308D0119

—Three-Ring Effect in Flexible Fiber Optics Bundles —G. Ya. Konaeva, D. K. Sattarov, T. D. Kulda and I. P. Gryaznova. **34**(1), 98–100 (Jan. 1973); CPM-7308D0122

Kondilenko, I. I.—Effect of Fermi Resonance, Bethe and Davidov Splitting on the Fine Structure of Raman Scattering in Carbon Disulfide —I. I. Kondilenko, P. A. Korotkov and G. S. Litvinov. **34**(3), 265–7 (Mar. 1973); CPM-7310E0227

—Effect of Parameters of Spontaneous Raman Lines on the Spectral Composition of Stimulated Raman Scattering —I. I. Kondilenko, P. A. Korotkov, V. I. Malyi and N. G. Golubeva. **34**(3), 271–3 (Mar. 1973); CPM-7310E0233

—Self-absorption in stimulated Raman spectra —I. I. Kondilenko, P. A. Korotkov and V. I. Malyi. **34**(6), 716–7 (Jun. 1973); CPM-7311E0278

Koningstein, J. A.—Effect of excitation-light frequency on resonance Raman spectra —J. A. Koningstein. **35**(2), 152–3 (Aug. 1973); CPM-7312F0076

Konkov, A. A.—Total emission of the fundamental NO band at high temperatures —A. A. Konkov and A. V. Vorontsov. **34**(5), 595–6 (May 1973); CPM-7311E0157

Kononov, E. Ya.—Intrashell transitions in the spectra of multicharged phosphorus ions —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev and R. V. Serov. **35**(6), 586–9 (Dec. 1973); CPM-7404E0004

Konoplev, G. G.—Intramolecular nonradiative transitions in the condensed phase —V. G. Plotnikov and G. G. Konoplev. **34**(6), 639–42 (Jun. 1973); CPM-7311E0201

Konyukhov, G. P.—Antireflection coating of a cutoff filter at a given spectral point —G. P. Konyukhov and E. A. Nesmelov. **34**(5), 562–5 (May 1973); CPM-7311E0124

Kopashova, I. M.—Mirror symmetry in spectra and properties of excited states of uranyl complexes —I. M. Kopashova, G. N. Larkin and D. S. Umreiko. **35**(2), 143–6 (Aug. 1973); CPM-7312F0067

Kopvillem, U. Kh.—Superradiative state and echo from coherent quasi-particules in semiconductors in an interband transition —V. S. Abramov and U. Kh. Kopvillem. **35**(6), 662–4 (Dec. 1973); CPM-7404E0080

Kopytin, Yu. D.—Dynamics of clearing a low-absorbing turbid medium in an intense light field —V. I. Bukatii, Yu. D. Kopytin, M. M. Krekova and G. M. Krekov. **35**(4), 418–9 (Oct. 1973); CPM-7402D0160

Korchevoi, Yu. P.—Experimental Investigation of the Relaxation of Excited States in a Decaying Alkali Plasma —D. Ya. Dudko, Yu. P. Korchevoi and V. I. Lukashenko. **34**(1), 17–20 (Jan. 1973); CPM-7308D0041

Korda, I. M.—Quick-damping absorption in polymethine dyes induced by picosecond pulses of ruby-laser emission —A. N. Rubinov and I. M. Korda. **35**(2), 221–2 (Aug. 1973); CPM-7312F0145

Koreneva, L. G.—Nature of the absorption bands and the origin of the high nonlinear dielectric susceptibility of molecular crystals — B. L. Davydov, V. V. Dunina, V. F. Zolin and L. G. Koreneva. **34** (2), 150–3 (Feb. 1973); CPM-7310E0112

Korneeva, T. I.—Plasma resonance in granular silver and gold films —I. N. Shklyarevskii, P. L. Pakhomov and T. I. Korneeva. **34**(4), 421–4 (Apr. 1973); CPM-7310E0383

Kornienko, L. S.—Some characteristics of a cw solid-state ring laser —L. S. Kornienko, N. V. Kravtsov and A. N. Shelaev. **35**(4), 449 (Oct. 1973); CPM-7402D0191

—Photostimulated thermoluminescence of fluorite crystals doped with rare earth ions —L. S. Kornienko, A. A. Lozhnikov, V. I. Nazarov and P. V. Chernov. **35**(6), 651–3 (Dec. 1973); CPM-7404E0069

—Radiation-induced defects in fluorite unstable at 77 K —N. E. Kask, L. S. Kornienko and P. V. Chernov. **35**(6), 683–4 (Dec. 1973); CPM-7404E0101

Korobeinikov, V. N.—Temperature dependence of the lifetime of excited UO_2^{2+} ions in frozen sulfuric acid solutions: role of structural transitions —V. P. Kazakov, V. N. Korobeinikov, Yu. N. Chuvilin, V. V. Rykova and I. G. Kovelzon. **35**(5), 576–7 (Nov. 1973); CPM-7403D0116

Korobeinikova, V. N.—Photoluminescence and phototransfer of an electron in acid aqueous solutions of Eu(II) —R. G. Bulgakov, V. P. Kazakov and V. N. Korobeinikova. **35**(5), 497–500 (Nov. 1973); CPM-7403D0037

Korobkin, V. V.—Intrashell transitions in the spectra of multicharged phosphorus ions —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev and R. V. Serov. **35**(6), 586–9 (Dec. 1973); CPM-7404E0004

Korobov, A. M.—Lasing characteristics of dye solutions in dispersive cavities under lamp pumping —I. G. Naumenko, A. M. Korobov and M. I. Dzyubenko. **34**(6), 683–5 (Jun. 1973); CPM-7311E0245

Korol, V. I.—Effective Excitation Cross Sections of Red System Bands of CN —V. I. Korol and S. M. Kishko. **34**(3), 344 (Mar. 1973); CPM-7310E0306

Korolev, F. A.—Spiked structure of stimulated emission pulses in rubidium vapor —F. A. Korolev, V. I. Atroshchenko, S. A. Bakhramov and V. I. Odintsov. **34**(5), 591–2 (May 1973); CPM-7311E0153

Koroleva, E. A.—Deactivation coefficients of the $O(^1D)$ and $O(^1S)$ metastable atoms in the glow discharge in oxygen —E. A. Koroleva and L. E. Khvorostovskaya. **35**(1), 11–3 (Jul. 1973); CPM-7312F1769

Korolikhin, V. V.—High-sensitivity millimeter and submillimeter wide-range microwave spectroscopy of gases —S. P. Belov, A. V. Burenin, L. I. Gershtein, V. V. Korolikhin and A. F. Krupnov. **35** (2), 172–6 (Aug. 1973); CPM-7312F0096

Korotkov, P. A.—Effect of Fermi Resonance, Bethe and Davidov Splitting on the Fine Structure of Raman Scattering in Carbon Disulfide —I. I. Kondilenko, P. A. Korotkov and G. S. Litvinov. **34**(3), 265–7 (Mar. 1973); CPM-7310E0227

—Effect of Parameters of Spontaneous Raman Lines on the Spectral Composition of Stimulated Raman Scattering —I. I. Kondilenko, P. A. Korotkov, V. I. Malyi and N. G. Golubeva. **34**(3), 271–3 (Mar. 1973); CPM-7310E0233

—Self-absorption in stimulated Raman spectra —I. I. Kondilenko, P. A. Korotkov and V. I. Malyi. **34**(6), 716–7 (Jun. 1973); CPM-7311E0278

Korsunskii, M. I.—Optical Properties of Palladium —Zh. Duisebaeva, M. I. Korsunskii and G. P. Motulevich. **34**(3), 307–8 (Mar. 1973); CPM-7310E0269

Koshcheev, L. N.—Measurement of Linear Velocity of a Body by the Optical Doppler Effect —Yu. N. Dubnishchev, A. I. Lokhmatov, L. N. Koshcheev, A. A. Stolpovskii and E. N. Utkin. **34**(3), 335 (Mar. 1973); CPM-7310E0297

Koshelev, K. N.—Intrashell transitions in the spectra of multicharged phosphorus ions —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev and R. V. Serov. **35**(6), 586–9 (Dec. 1973); CPM-7404E0004

Kosinov, V. A.—Calculation of the Franck-Condon factors for the processes involved in the excitation of the molecular bands of the first negative system of nitrogen and carbon monoxide —V. A. Kosinov and P. A. Skovorodko. **35**(3), 344 (Sep. 1973); CPM-7312F1620

Kosnikovskii, V. A.—Holographic recording of three-dimensional ensembles of fast-moving particles —D. I. Staselko and V. A. Kosnikovskii. **34**(2), 206–10 (Feb. 1973); CPM-7310E0168

Kosobukin, V. A.—Change in intensities of absorption bands under loading of polymer chains —V. A. Kosobukin. **34**(2), 154–6 (Feb. 1973); CPM-7310E0116

Kost, M. V.—Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Kosyakov, V. I.—Transformation of neodymium-laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

Kotik, A. F.—Range of application of the double-flow approximation for determining the absorption of scattering objects —M. Yu. Sakhnovskü and A. F. Kotik. **34**(6), 689–91 (Jun. 1973); CPM-7311E0251

Kotlikov, E. N.—Hanle Effect in the Case of Impulse Excitation of the 6^1D_2 Cadmium Level —E. N. Kotlikov. **34**(1), 114–5 (Jan. 1973); CPM-7308D0138

—Effect of cascade transitions on the crossing signal from the 6^3S_1 cadmium level —K. K. Boyarskii and E. N. Kotlikov. **34**(5), 592–3 (May 1973); CPM-7311E0154

Kovalenko, N. P.—Theory of optical properties of liquid metals —N. P. Kovalenko and Yu. P. Krasnyi. **35**(4), 397–9 (Oct. 1973); CPM-7402D0139

Kovalev, A. A.—Temperature dependence of nonradiative electron transitions in the solid phase —A. A. Kovalev and B. I. Makshantsev. **35**(5), 494–6 (Nov. 1973); CPM-7403D0034

Kovalev, A. S.—Spontaneous emission of atoms in an intense field and its relationship to noise in lasers —Yu. L. Klimontovich, A. S. Kovalev and P. S. Landa. **35**(6), 590–2 (Dec. 1973); CPM-7404E0008

Kovalskii, L. V.—Fine structure of a scattered-radiation field —V. K. Polyanskii and L. V. Kovalskii. **35**(2), 200–2 (Aug. 1973); CPM-7312F0124

Kovelzon, I. G.—Temperature dependence of the lifetime of excited UO_2^{2+} ions in frozen sulfuric acid solutions: role of structural transitions —V. P. Kazakov, V. N. Korobeinikov, Yu. N. Chuvilin, V. V. Rykova and I. G. Kovelzon. **35**(5), 576–7 (Nov. 1973); CPM-7403D0116

Kovner, M. A.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

—Effect of Nonadiabaticity on Line Intensities in the Vibronic Spectra of Europium Complexes —K. I. Gurev and M. A. Kovner. **34**(1), 104–6 (Jan. 1973); CPM-7308D0128

—Theory of the Vibrational Spectrum of Benzene. Author's Reply to Comments —M. A. Kovner. **34**(3), 339–40 (Mar. 1973); CPM-7310E0301

—Out-of-Plane Vibrations of Perylene —L. M. Babkov, M. A. Kovner and V. B. Rents. **34**(3), 354–5 (Mar. 1973); CPM-7310E0316

—Possibility of creating population inversion and infrared signal amplifications on excited molecular vibration levels in conditions of unsteady induced Raman scattering —M. A. Kovner, B. A. Medvedev and O. M. Parshkov. **34**(4), 404–6 (Apr. 1973); CPM-7310E0366

Kovner, M. A.—Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

—Out-of-plane vibrations of the coronene molecule —L. M. Babkov and M. A. Kovner. **35**(2), 214 (Aug. 1973); CPM-7312F0138

Kovshik, A. P.—Anisotropy of the molar refraction of liquid crystalline p, p'-dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35**(5), 511–2 (Nov. 1973); CPM-7403D0051

Kozlov, M. G.—Absorption spectrum of lead vapor in ultraviolet and Schumann regions —M. G. Kozlov, S. A. Mileshina and G. P. Startsev. **35**(1), 89–90 (Jul. 1973); CPM-7312F1847

Kozlov, Yu. G.—A modification of the Jamin interferometer —Yu. G. Kozlov, G. A. Plekhotkin and A. M. Shukhtin. **35**(4), 453–4 (Oct. 1973); CPM-7402D0195

Kozlova, N. L.—Gyrotropy of sillenite-type crystals —V. A. Kizel, V. I. Burkov, Yu. I. Krasilov, N. L. Kozlova, G. M. Safronov and V. N. Batog. **34**(6), 677–80 (Jun. 1973); CPM-7311E0239

Kozulin, A. T.—Two modifications of phosphorus tribromide —A. T. Kozulin, A. V. Gogolev, V. I. Karmanov and V. A. Murtsovkin. **34**(6), 708–9 (Jun. 1973); CPM-7311E0270

Kozulin, A. T.—Relationship between the characteristics of the intramolecular and intermolecular vibrations of XY_3 type molecules —A. T. Kozulin. **35**(1), 92–3 (Jul. 1973); CPM-7312F1850

Krasheninnikov, A. A.—Quenching of luminescence in hydrogen-bonded complexes. Investigation of model systems aromatic hydrocarbons—salts of nitrogen heterocyclics —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(5), 584–5 (May 1973); CPM-7311E0146

—Mechanism of the effect of aliphatic amines on the fluorescence of 2-naphthol —A. A. Krasheninnikov and A. V. Shablya. **34**(6), 705–6 (Jun. 1973); CPM-7311E0267

—Effect of temperature on the luminescence quenching constant in hydrogen bonded complexes —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(6), 718–9 (Jun. 1973); CPM-7311E0280

Krasilov, Yu. I.—Optical activity of a thallium-uranyl-propionate crystal —Z. M. Alikhanova, V. I. Burkov, V. A. Kizel, Yu. I. Krasilov, V. A. Madii and G. M. Safronov. **34**(5), 573–4 (May 1973); CPM-7311E0135

—Gyrotropy of sillenite-type crystals —V. A. Kizel, V. I. Burkov, Yu. I. Krasilov, N. L. Kozlova, G. M. Safronov and V. N. Batog. **34**(6), 677–80 (Jun. 1973); CPM-7311E0239

Krasilov, Yu. I.—Temperature broadening and shift of phononless lines in the spectra of crystalline uranyl compound with a polymer-type structure —R. N. Shchelokov, G. V. Ellert, V. E. Karasev, Yu. I. Krasilov and G. M. Gaevoi. **35**(5), 570–1 (Nov. 1973); CPM-7403D0110

Krasnov, K. S.—Change in the Configuration of Molecules on Isolation in a Matrix —K. S. Krasnov and V. G. Solomonik. **34**(3), 357–8 (Mar. 1973); CPM-7310E0319

Krasnyi, Yu. P.—Theory of optical properties of liquid metals —N. P. Kovalenko and Yu. P. Krasnyi. **35**(4), 397–9 (Oct. 1973); CPM-7402D0139

Kravchenko, A. I.—De-excitation and population of cesium levels during the decay of a cesium-helium discharge plasma. II —N. D. Morgulis and A. I. Kravchenko. **34**(4), 374–7 (Apr. 1973); CPM-7310E0336

Kravtsov, N. V.—Some characteristics of a cw solid-state ring laser —L. S. Kornienko, N. V. Kravtsov and A. N. Shelaev. **35**(4), 449 (Oct. 1973); CPM-7402D0191

Krekov, G. M.—Dynamics of clearing a low-absorbing turbid medium in an intense light field —V. I. Bukatii, Yu. D. Kopytin, M. M. Krekova and G. M. Krekov. **35**(4), 418–9 (Oct. 1973); CPM-7402D0160

Krekova, M. M.—Dynamics of clearing a low-absorbing turbid medium in an intense light field —V. I. Bukatii, Yu. D. Kopytin, M. M. Krekova and G. M. Krekov. **35**(4), 418–9 (Oct. 1973); CPM-7402D0160

Kristofel, N. N.—Temperature depolarization of the luminescence of KCl-Sn^{2+} type centers —N. N. Kristofel and V. V. Khizhnyakov. **34**(6), 721–2 (Jun. 1973); CPM-7311E0283

Kristoffel, N. N.—Shape of electronic-vibrational spectra of interacting impurity centers —N. N. Kristoffel. **35**(2), 179–82 (Aug. 1973); CPM-7312F0103

Krivoshchekov, G. V.—Some special features of vector synchronous interaction of light waves in anistropic crystals —G. V. Krivoshchekov, V. I. Stroganov, V. I. Samarin and V. M. Tarasov. **34**(2), 196–7 (Feb. 1973); CPM-7310E0158

—Theory of image conversion in nonlinear optical systems —A. V. Gainer, G. V. Krivoshchekov and R. I. Sokolovskii. **34**(2), 225–6 (Feb. 1973); CPM-7310E0187

Krokhin, O. N.—Observation of satellites to the resonance transitions of H- and He-like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

Kruchek, M. P.—The fluorine anomaly in a series of optically active α-haloketones —B. S. Kataev and M. P. Kruchek. **34**(2), 166–7 (Feb. 1973); CPM-7310E0128

—Kirkwood Formulation of the Theory of the Optical Activity of Oriented Molecules —M. P. Kruchek. **34**(3), 340–1 (Mar. 1973); CPM-7310E0302

Krupenikova, T. I.—Observation of hyperfine splitting in iodine atoms by means of spontaneous emission in pulsed photolysis of CF_3I —V. Yu. Zelesskii, Yu. M. Ivanenko and T. I. Krupenikova. **34**(6), 618–9 (Jun. 1973); CPM-7311E0180

Krupitskii, E. I.—Elimination of a fundamental drawback of two-dimensional holograms —E. I. Krupitskii and I. S. Barbanel. **35**(1), 72–4 (Jul. 1973); CPM-7312F1830

Krupnov, A. F.—High-sensitivity millimeter and submillimeter wide-range microwave spectroscopy of gases —S. P. Belov, A. V. Burenin, L. I. Gershtein, V. V. Korolikhin and A. F. Krupnov. **35**(2), 172–6 (Aug. 1973); CPM-7312F0096

Krylov, V. N.—High-efficiency scheme of intracavity generation of harmonics and parametric oscillation —V. D. Volosov and V. N. Krylov. **35**(1), 69–71 (Jul. 1973); CPM-7312F1827

Krylova, S. I.—Use of nonself-reversed line profiles for plasma diagnostics in the burner of a metal-haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

Kryukov, V. V.—Spectral-time characteristics of dye-solution lasing in pumping with a series of ultrashort pulses —B. S. Neporent, V. V. Kryukov, G. V. Lukomskii and V. B. Shilov. **35**(3), 309–11 (Sep. 1973); CPM-7312F1585

Kryzhanovskii, B. P.—Some electrical and optical properties of chromium-, nolybdenum- and tungsten-nitride layers —L. A. Cherezova and B. P. Kryzhanovskii. **34**(2), 234–6 (Feb. 1973); CPM-7310E0196

Kubarev, S. I.—Some Problems of the Spectroscopy of Organic Compounds —S. I. Kubarev and O. A. Ponomarev. **34**(1), 46–8 (Jan. 1973); CPM-7308D0070

Kucherenko, V. I.—Breakdown of a complex spectral contour into individual symmetric bands —V. I. Mikhailenko and V. I. Kucherenko. **35**(4), 370–3 (Oct. 1973); CPM-7402D0112

Kucherov, V. F.—Investigation of certain properties of substituted chalcones and their vinylogs in the electronically excited state — A. N. Nikitina, G. M. Fedyunina, B. Umirzakov, L. A. Yanovskaya and V. F. Kucherov. **34**(2), 163–5 (Feb. 1973); CPM-7310E0125

Kucheryavenko, E. I.—Sensitivity and resolution in holographic interferometry of focused images —I. S. Klimenko, E. I. Kucheryavenko and E. G. Matinyan. **34**(2), 203–5 (Feb. 1973); CPM-7310E0165

Kuchinskii, V. V.—Calculation of the distribution over vibrational and rotational states in the reaction $A^- + A \rightarrow A_2 + e$ by means of the generalized Franck-Condon principle —Yu. N. Demkov and V. V. Kuchinskii. **35**(5), 467–9 (Nov. 1973); CPM-7403D0007

Kukhar, N. R.—Optical Method for Measuring Directivity Characteristics of Planar Acoustical Radiators —N. R. Kukhar. **34**(1), 103–4 (Jan. 1973); CPM-7308D0127

Kukhtin, R. I.—Spectral dependences of the photoconductivity of anthracene single crystals with electrolytic injecting contacts —R. I. Kukhtin, A. B. Imenitov, B. T. Lozhkin and L. I. Boguslavskii. **35**(5), 491–3 (Nov. 1973); CPM-7403D0031

Kukibnyi, Yu. A.—Theory of a high-pressure infrared chemical laser —V. A. Kochelap and Yu. A. Kukibnyi. **34**(2), 186–90 (Feb. 1973); CPM-7310E0148

Kulda, T. D.—Three-Ring Effect in Flexible Fiber Optics Bundles — G. Ya. Konaeva, D. K. Sattarov, T. D. Kulda and I. P. Gryaznova. **34**(1), 98–100 (Jan. 1973); CPM-7308D0122

Kulyasov, V. N.—Double resonance of the 5d[7/2]$_4$ state of the Xe^{136} isotope —E. B. Aleksandrov and V. N. Kulyasov. **35**(2), 220–1 (Aug. 1973); CPM-7312F0144

—Two–channel scheme for recording the spectrum of radiation intensity fluctuations —E. B. Aleksandrov and V. N. Kulyasov. **35** (3), 330–1 (Sep. 1973); CPM-7312F1606

Kumeskii, V. R.—Spectroscopic Properties of Glasslike Solutions with Molecular–Anion Admixture —M. U. Belyi, V. R. Kumeskii and I. Ya. Kushnirenko. **34**(1), 49–53 (Jan. 1973); CPM-7308D0073

Kuranov, A. L.—Excitation of neon 2p–4d lines during collision of the second kind with helium atoms in the 2^1S_0 state —Yu. Z. Ionikh, N. P. Penkin and A. L. Kuranov. **34**(4), 471 (Apr. 1973); CPM-7310E0433

Kurashov, V. N.—Polarization contrast method in holography —I. A. Deryugin, V. N. Kurashov, D. V. Podanchuk and Yu. V. Khoroshkov. **35**(2), 195–9 (Aug. 1973); CPM-7312F0119

Kurik, M. W.—Determination of the Optical Density of Semiconductor Layers on Transparent Substrates —M. W. Kurik and A. Kh. Rozhko. **34**(3), 305–6 (Mar. 1973); CPM-7310E0267

Kushnirenko, I. Ya.—Spectroscopic Properties of Glasslike Solutions with Molecular–Anion Admixture —M. U. Belyi, V. R. Kumeskii and I. Ya. Kushnirenko. **34**(1), 49–53 (Jan. 1973); CPM-7308D0073

—Temperature quenching of luminescence in tellurium–halide solutions —M. U. Belyi, I. Ya. Kushnirenko and A. B. Leontev. **34** (4), 412–5 (Apr. 1973); CPM-7310E0374

Kustov, E. F.—Optical spectra of ion–group ions in $LiAl_5O_8$ single crystals —M. N. Baranov and E. F. Kustov. **34**(4), 419–20 (Apr. 1973); CPM-7310E0381

Kutolin, S. A.—Method of Calculating the Energy of Optical Transitions from the Valence Band to the Conduction Band in the Framework of a Simplified Model of a Condensed Medium —S. A. Kutolin and R. N. Samoilova. **34**(1), 67–8 (Jan. 1973); CPM-7308D0091

Kuzin, V. A.—Stimulated lasing by solutions of anthracene derivatives —A. V. Aristov, V. A. Kuzin and A. S. Cherkasov. **35**(2), 192–4 (Aug. 1973); CPM-7312F0116

Kuznetsov, A. N.—Effect of x–ray irradiation of cells on nuclear relaxation of optically oriented Hg^{199} and Hg^{201} atoms —A. N. Kuznetsov, I. E. Grinko and V. F. Terzeman. **35**(3), 238–9 (Sep. 1973); CPM-7312F1514

Kuznetsova, A. N.—Spin relaxation of Hg^{199}, Hg^{201} optically oriented atoms in a nonuniform magnetic field —I. E. Grinko, A. N. Kuznetsova, P. S. Ovcharenko, B. I. Vintenkov and Yu. M. Petukhov. **34**(5), 576–7 (May 1973); CPM-7311E0138

Kvater, G. S.—Quenching collisions in helium observed during the decay of the n^1S_0 and n^3S_1 states —G. S. Kvater, O. V. Oginets, V. B. Smirnov and S. A. Bagaev. **35**(2), 226–7 (Aug. 1973); CPM-7312F0150

Kyong, Nguyen Thke—Determinantal form of the sum rules in the theory of molecular vibrational spectra —Nguyen Thke Kyong and D. S. Bystrov. **35**(6), 613–5 (Dec. 1973); CPM-7404E0031

Kyuntsel, I. A.—Quadrupole Relaxation and the Hydrogen Bond in Crystalline Chloroform and Its Complexes —I. A. Kyuntsel and Yu. I. Rozenberg. **34**(3), 341–2 (Mar. 1973); CPM-7310E0303

L

Labzovskii, L. N.—Relativistic Calculations of Transition Energies in Multiply–Charged Two–Electron Ions —G. L. Klimchitskaya and L. N. Labzovskii. **34**(3), 349–50 (Mar. 1973); CPM-7310E0311

—Interpolation Formula for Energy Levels of Isoelectronic Atoms and Ions with an Arbitrary Value of the Nuclear Charge $1 \leq Z \leq 137$ — G. L. Klimchitskaya and L. N. Labzovskii. **34**(3), 350–2 (Mar. 1973); CPM-7310E0312

—Relativistic theory for spectra of multiply charged ions —G. L. Klimchitskaya and L. N. Labzovskii. **34**(4), 365–7 (Apr. 1973); CPM-7310E0327

Labzovskii, L. N.—Polarizability of a hydrogen–like ion with an arbitrary nuclear charge —L. N. Labzovskii. **35**(3), 326–7 (Sep. 1973); CPM-7312F1602

—Polarization of deuteron and its effect on the isotopic shift of hydrogen and deuterium levels —L. N. Labzovskii. **35**(5), 574–5 (Nov. 1973); CPM-7403D0114

Lakoza, E. L.—Analysis of the scattering indicatrix near the critical point —E. L. Lakoza, N. L. Tsyganov and A. V. Chalyi. **35**(3), 299–301 (Sep. 1973); CPM-7312F1575

Landa, P. S.—Spontaneous emission of atoms in an intense field and its relationship to noise in lasers —Yu. L. Klimontovich, A. S. Kovalev and P. S. Landa. **35**(6), 590–2 (Dec. 1973); CPM-7404E0008

Lapin, V. A.—Infrared spectrum of TiI_4 in the 380–900 cm^{-1} range — V. A. Lapin and I. N. Godnev. **34**(6), 720 (Jun. 1973); CPM-7311E0282

Larionov, N. P.—The unscattered component of laser radiation after passing through a rough surface —N. P. Larionov, A. V. Lukin and K. S. Mustafin. **35**(5), 525–7 (Nov. 1973); CPM-7403D0065

Larkin, G. N.—Mirror symmetry in spectra and properties of excited states of uranyl complexes —I. M. Kopashova, G. N. Larkin and D. S. Umreiko. **35**(2), 143–6 (Aug. 1973); CPM-7312F0067

Lashkov, G. I.—Direct Determination of the Number of Triplet Excitons Arriving at the Surface of a Polymer. Heterogeneous Photosensitization —G. I. Lashkov, L. S. Shatseva and E. N. Bodunov. **34**(1), 57–60 (Jan. 1973); CPM-7308D0081

Latush, E. L.—Role of electron deexcitation in populating cadmium and zinc ionic levels —E. L. Latush, V. S. Mikhalevskii and M. F. Sem. **34**(2), 120–3 (Feb. 1973); CPM-7310E0082

Latypova, R. G.—Microwave spectrum of isotope–substituted pyrazole molecules —R. S. Nasibullin, R. G. Latypova, V. S. Troitskaya, V. G. Vinokurov and N. M. Pozdeev. **35**(1), 52–3 (Jul. 1973); CPM-7312F1810

Lazarev, A. N.—Calculation of intensities in an α–quartz crystal as a method of checking on the shapes of the vibrations —A. N. Mirgorodskii and A. N. Lazarev. **34**(5), 514–7 (May 1973); CPM-7311E0076

Lebedev, S. A.—Value of the gain for light internally reflected from a medium with inverted population —S. A. Lebedev, V. M. Volkov and B. Ya. Kogan. **35**(5), 565–6 (Nov. 1973); CPM-7403D0105

Lebedev, V. P.—Correlation method of attenuating the effect of random multiplicative noise in Fourier spectroscopy —S. M. Gorskii and V. P. Lebedev. **35**(5), 544–6 (Nov. 1973); CPM-7403D0084

Lebedeva, G. A.—Optical properties of SiO_2 in the spectral region 5–40 eV —O. M. Sorokin, V. A. Blank and G. A. Lebedeva. **35**(3), 291–4 (Sep. 1973); CPM-7312F1567

Lebedeva, L. G.—Spectral turbidimetry of concentrated disperse systems —V. I. Klenin, S. Yu. Shchegolev and L. G. Lebedeva. **35** (6), 672–4 (Dec. 1973); CPM-7404E0090

Lebedeva, V. N.—Calculation of the dichroism of iodine chains —V. N. Lebedeva. **35**(4), 394–6 (Oct. 1973); CPM-7402D0136

Leontev, A. B.—Temperature quenching of luminescence in tellurium–halide solutions —M. U. Belyi, I. Ya. Kushnirenko and A. B. Leontev. **34**(4), 412–5 (Apr. 1973); CPM-7310E0374

Libov, V. S.—Optical characteristics of a fluoroapatite single crystal in the infrared —I. I. Shaganov and V. S. Libov. **35**(1), 106–7 (Jul. 1973); CPM-7312F1864

—Allowance for the differences between effective and average fields in the experimental determination of the characteristics of molecular transitions from the vibronic spectra of the anthracene crystal —I. I. Shigorin, V. S. Libov and N. G. Bakhshiev. **35**(2), 134–6 (Aug. 1973); CPM-7312F0058

—Influence of the effective light field on the Raman spectra of condensed media. II: A method of determining the correction for the observed Raman spectrum —V. M. Sidorenko, V. S. Libov and N. G. Bakhshiev. **35**(2), 158–61 (Aug. 1973); CPM-7312F0082

Lipovetskii, S. S.—Excitation of ^1S and ^1D autoionization states and resonance ionization of a helium atom by electron impact —S. S. Lipovetskii and V. S. Senashenko. **34**(6), 607–10 (Jun. 1973); CPM-7311E0169

Lipovetskii, S. S.—Generalized differential oscillator strengths of the helium atom near the $(2s2p)^1P^{(-)}$ autoionization state —V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **35**(1), 6–7 (Jul. 1973); CPM-7312F1764

Lisitsa, M. P.—Features of exciton absorption in molecular crystals when Fermi resonance is present —M. P. Lisitsa, A. M. Yaremko and N. E. Ralko. **35**(6), 641–4 (Dec. 1973); CPM-7404E0059

Lisovskaya, I. A.—Radioluminescence of Toluene Solid Solutions —I. A. Lisovskaya and M. V. Alfimov. **34**(3), 353–4 (Mar. 1973); CPM-7310E0315

Lisovskaya, I. A.—Singlet–doublet and triplet–doublet inductive–resonance energy transfer —I. A. Lisovskaya, V. G. Plotnikov and M. V. Alfimov. **35**(6), 634–5 (Dec. 1973); CPM-7404E0052

Lisovskii, F. V.—Faraday effect in cubic ferrimagnets with magnetic birefringence —F. V. Lisovskii. **34**(5), 545–8 (May 1973); CPM-7311E0107

Litsov, N. I.—A spectral–luminescence study of phototransformations of anthraquinone in hexane —N. I. Litsov, L. A. Negievich and A. A. Kachan. **34**(4), 473–4 (Apr. 1973); CPM-7310E0435

Litvinov, G. S.—Effect of Fermi Resonance, Bethe and Davidov Splitting on the Fine Structure of Raman Scattering in Carbon Disulfide —I. I. Kondilenko, P. A. Korotkov and G. S. Litvinov. **34**(3), 265–7 (Mar. 1973); CPM-7310E0227

Litvinov, V. V.—Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Lizengevich, A. I.—Special Features of the Formation of the Wing Contours of Self–Broadened Spectral Lines —A. I. Lizengevich and V. V. Fomin. **34**(3), 277–9 (Mar. 1973); CPM-7310E0239

Lobanov, B. D.—Color Centers and Recombination Luminescence in KI–Ag Crystals —E. E. Penzina, I. A. Parfianovich and B. D. Lobanov. **34**(3), 294–7 (Mar. 1973); CPM-7310E0256

Loginov, A. V.—Radiation Lifetimes of Levels of the Na II Ion —P. F. Gruzdev and A. V. Loginov. **34**(3), 352–3 (Mar. 1973); CPM-7310E0314

—Radiation lifetimes for levels of the Mg III ion —P. F. Gruzdev and A. V. Loginov. **34**(4), 469–70 (Apr. 1973); CPM-7310E0431

Loginov, A. V.—Neon. Radiative lifetimes for the levels of the $2p^5ms$, $2p^5np$, $2p^5nd$ (m = 3–6, n = 3–5) and $2p^54f$ configurations — P. F. Gruzdev and A. V. Loginov. **35**(1), 1–3 (Jul. 1973); CPM-7312F1759

—Radiation lifetimes for the levels of the KII ion —A. V. Loginov and P. F. Gruzdev. **35**(5), 578–81 (Nov. 1973); CPM-7403D0118

Logvinenko, P. N.—Spectroscopic manifestations of ordering in the positions of phenanthrene molecules in solids solutions —E. G. Moisya, G. M. Semenovich and P. N. Logvinenko. **34**(2), 157–60 (Feb. 1973); CPM-7310E0119

Lokhmatov, A. I.—Measurement of Linear Velocity of a Body by the Optical Doppler Effect —Yu. N. Dubnishchev, A. I. Lokhmatov, L. N. Koshcheev, A. A. Stolpovskii and E. N. Utkin. **34**(3), 335 (Mar. 1973); CPM-7310E0297

Long, Nguen Ngok—Effect of temperature and excitation intensity on the edge emission of βSiC(Al,N) crystals —Nguen Ngok Long and D. S. Nedzvetskii. **35**(6), 645–7 (Dec. 1973); CPM-7404E0063

Lopatin, S. N.—Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov and M. E. Akopyan. **34**(5), 501–2 (May 1973); CPM-7311E0063

Loskutov, Yu. M.—Compton effect in a magnetic field taking into account the anomalous magnetic moment —Yu. M. Loskutov and V. V. Skobelev. **35**(3), 289–90 (Sep. 1973); CPM-7312F1565

Lozhkin, B. T.—Spectral dependences of the photoconductivity of anthracene single crystals with electrolytic injecting contacts —R. I. Kukhtin, A. B. Imenitov, B. T. Lozhkin and L. I. Boguslavskii. **35**(5), 491–3 (Nov. 1973); CPM-7403D0031

Lozhnikov, A. A.—Photostimulated thermoluminescence of fluorite crystals doped with rare earth ions —L. S. Kornienko, A. A. Lozhnikov, V. I. Nazarov and P. V. Chernov. **35**(6), 651–3 (Dec. 1973); CPM-7404E0069

Luizova, L. A.—Use of nonself–reversed line profiles for plasma diagnostics in the burner of a metal–haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

Lukashenko, V. I.—Experimental Investigation of the Relaxation of Excited States in a Decaying Alkali Plasma —D. Ya. Dudko, Yu. P. Korchevoi and V. I. Lukashenko. **34**(1), 17–20 (Jan. 1973); CPM-7308D0041

Lukin, A. V.—The unscattered component of laser radiation after passing through a rough surface —N. P. Larionov, A. V. Lukin and K. S. Mustafin. **35**(5), 525–7 (Nov. 1973); CPM-7403D0065

Lukomskii, G. V.—Spectral–time characteristics of dye–solution lasing in pumping with a series of ultrashort pulses —B. S. Neporent, V. V. Kryukov, G. V. Lukomskii and V. B. Shilov. **35**(3), 309–11 (Sep. 1973); CPM-7312F1585

—Spectral kinetics of the laser action in solutions of various organic substances —B. S. Neporent, V. B. Shilov and G. V. Lukomskii. **35**(3), 312–4 (Sep. 1973); CPM-7312F1588

Lunkina, A. A.—Microcontrast of Fiber Optics Elements —D. K. Sattarov, A. A. Lunkina and G. Ya. Konaeva. **34**(1), 95–7 (Jan. 1973); CPM-7308D0119

Lunkina, A. A.—Noise in fiber–optics elements —A. A. Lunkina and D. K. Sattarov. **35**(1), 84–7 (Jul. 1973); CPM-7312F1842

Lupashko, E. A.—Effect of absorbed moisture on the position of the passband of narrow–band interference filters —I. N. Shklyarevskii, R. I. Umerov, E. A. Lupashko and V. I. Khramtsova. **35**(2), 206–8 (Aug. 1973); CPM-7312F0130

Lutskii, A. E.—Absorption spectra of internally–complexed divalent copper compounds —E. A. Romodanova and A. E. Lutskii. **34**(5), 583–4 (May 1973); CPM-7311E0145

—Intramolecular charge–transfer bands in the electronic–vibrational spectra of substituted benzenes —A. E. Lutskii. **34**(6), 624–6 (Jun. 1973); CPM-7311E0186

Lyagushchenko, R. I.—Intensities of ionic and atomic lines in a hollow cathode —Yu. M. Kagan, R. I. Lyagushchenko and S. N. Khvorostovskii. **35**(3), 248–50 (Sep. 1973); CPM-7312F1524

Lyaptsev, A. V.—Selection of moving coordinate systems in the theory of molecules with internal rotation —A. A. Kiselev and A. V. Lyaptsev. **35**(3), 251–4 (Sep. 1973); CPM-7312F1527

Lyast, I. D.—Estimation of the Correlation Component from an Approximate Wave Function —I. D. Lyast and A. Ya. Biktimirov. **34**(3), 252–3 (Mar. 1973); CPM-7310E0214

Lyast, I. Ts.—Application of the local energy method to the consideration of correlation in outer shells of atoms —A. Ya. Biktimirov and I. Ts. Lyast. **34**(6), 599–600 (Jun. 1973); CPM-7311E0161

Lyubimov, V. V.—Investigation of the selective properties of open unstable cavities —G. N. Vinokurov, V. V. Lyubimov and I. B. Orlova. **34**(4), 427–32 (Apr. 1973); CPM-7310E0389

Lyubimov, V. V.—Unstable asymmetric resonators —V. V. Lyubimov, N. N. Pevgenen and V. F. Petrov. **35**(6), 657–9 (Dec. 1973); CPM-7404E0075

Lyutui, A. I.—Excitation temperature for active nitrogen —A. I. Lyutui and L. D. Melnikov. **34**(4), 385–6 (Apr. 1973); CPM-7310E0347

M

Maaroos, A. A.—Luminescence Centers in KBr–TlBr Single Crystals with TlBr Concentrations up to 20 mol.% —R. I. Gindina, A. A. Elango, A. A. Khaav, A. A. Maaroos and A. A. Tsirk. **34**(1), 63–6 (Jan. 1973); CPM-7308D0087

Madii, V. A.—Optical activity of a thallium–uranyl–propionate crystal —Z. M. Alikhanova, V. I. Burkov, V. A. Kizel, Yu. I. Krasilov, V. A. Madii and G. M. Safronov. **34**(5), 573–4 (May 1973); CPM-7311E0135

Mak, A. A.—Special Features of Neodymium Glass Generation at a Wavelength of 0.92 μm —O. D. Gavrilov, A. A. Mak, D. S. Prilezhaev, V. I. Ustyugov and V. A. Fromzel. **34**(1), 77–80 (Jan. 1973); CPM-7308D0101

Mak, A. A.—Transformation of neodymium–laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

—Gain of a laser amplifier in regenerative and super–regenerative modes —A. A. Mak, V. I. Ustyugov and V. A. Fromzel. **35**(5), 528–31 (Nov. 1973); CPM-7403D0068

Makhlin, A. N.—Phase relations in light scattered by density fluctuations in pure liquids —A. N. Makhlin and G. V. Skrotskii. **34**(5), 575–6 (May 1973); CPM-7311E0137

Maklakov, L. I.—Raman spectrum of polycarbonates excited by a laser —V. L. Furer and L. I. Maklakov. **34**(2), 239–40 (Feb. 1973); CPM-7310E0201

Makogon, M. M.—Self–modulation mechanism of a ruby laser —M. M. Makogon and Yu. N. Ponomarev. **34**(4), 439–40 (Apr. 1973); CPM-7310E0401

Makrenko, S. N.—Spectroscopic Study of Vibrational–Energy Scattering in I_2 Molecules Excited by a He–Ne Laser —E. D. Bugrim, S. N. Makrenko and I. L. Tsikora. **34**(1), 35–7 (Jan. 1973); CPM-7308D0059

Makshantsev, B. I.—Contribution to the theory of nonradiative electron transitions. 2: Franck–Condon factor for the Morse oscillator in the case of an arbitrary parameter —B. I. Makshantsev. **34**(5), 503–4 (May 1973); CPM-7311E0065

Makshantsev, B. I.—Temperature dependence of nonradiative electron transitions in the solid phase —A. A. Kovalev and B. I. Makshantsev. **35**(5), 494–6 (Nov. 1973); CPM-7403D0034

Makushkin, Yu. S.—Applicability of the Rigid and Nonrigid Top Models for the Reproduction of the System of Rotational Levels of Asymmetric Polyatomic Molecules —V. N. Bryukhanov and Yu. S. Makushkin. **34**(1), 31–2 (Jan. 1973); CPM-7308D0055

Makushkin, Yu. S.—Calculation of intensities for water–vapor spectral lines in bands of the first overtone and combination frequencies —O. K. Voitsekhovskaya, I. I. Ippolitov and Yu. S. Makushkin. **35**(1), 24–6 (Jul. 1973); CPM-7312F1782

—Effect of electron–nuclear interaction on transition probabilities in the theory of vibrational–rotational molecular spectra —A. E. Bolonkin and Yu. S. Makushkin. **35**(1), 46–8 (Jul. 1973); CPM-7312F1804

—Calculation of molecular vibrational–rotational energies by the contact transformation method in the secondary–quantization representation. 1: Diatomic molecules —Yu. S. Makushkin and Vl. G. Tyuterev. **35**(3), 258–61 (Sep. 1973); CPM-7312F1534

Malakhov, Yu. I.—Measurement of lifetimes of Kr II levels by electrooptical chronography —Yu. I. Malakhov and V. A. Fabrikant. **34**(4), 371–3 (Apr. 1973); CPM-7310E0333

Malakhovskii, A. V.—Optical and magnetooptical properties of iron borate in the visible and near ultraviolet spectral regions —I. S. Edelman and A. V. Malakhovskii. **35**(5), 554–5 (Nov. 1973); CPM-7403D0094

Malevich, V. L.—Multiquantum absorption of light by conduction electrons in extrinsic semiconductors —V. L. Malevich and E. M. Epshtein. **35**(3), 346–7 (Sep. 1973); CPM-7312F1622

Malyi, V. I.—Effect of Parameters of Spontaneous Raman Lines on the Spectral Composition of Stimulated Raman Scattering —I. I. Kondilenko, P. A. Korotkov, V. I. Malyi and N. G. Golubeva. **34**(3), 271–3 (Mar. 1973); CPM-7310E0233

—Self–absorption in stimulated Raman spectra —I. I. Kondilenko, P. A. Korotkov and V. I. Malyi. **34**(6), 716–7 (Jun. 1973); CPM-7311E0278

Malyshev, L. G.—Frequency shift of the parametric resonance of atoms surrounded by a radio–frequency field —L. G. Malyshev and L. N. Novikov. **34**(4), 466–7 (Apr. 1973); CPM-7310E0428

Malysheva, A. F.—Investigation of the Optical Constants of $PbCl_2$ and $PbBr_2$ at 78 K in the Energy Range 3.5–11.0 eV —A. F. Malysheva and V. G. Plekhanov. **34**(3), 302–4 (Mar. 1973); CPM-7310E0264

Mamyrin, A. B.—Optical pumping of hyperfine sublevels of the $4^2S_{1/2}$ state of potassium —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **34**(6), 707–8 (Jun. 1973); CPM-7311E0269

Mamyrin, A. B.—Frequency shifts in a hyperfine transition in potassium produced by various buffer gases —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **35**(1), 93–4 (Jul. 1973); CPM-7312F1851

Manakov, N. L.—Nonlinear susceptibilities of atomic hydrogen —N. L. Manakov, M. A. Preobrazhenskii and L. P. Rapoport. **35**(1), 14–6 (Jul. 1973); CPM-7312F1772

Mandrosov, V. I.—Properties of thin–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **34**(6), 695–7 (Jun. 1973); CPM-7311E0257

Mandrosov, V. I.—Study of the properties of thick–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **35**(1), 75–6 (Jul. 1973); CPM-7312F1833

Mannafov, T. G.—Vibrational spectra and conformation of phosphorus– and arsenic–containing heterocyclic compounds —A. B. Remizov, R. R. Shakhidullin, D. F. Fazliev and T. G. Mannafov. **34**(2), 142–3 (Feb. 1973); CPM-7310E0104

Mardaeva, A. I.—Resonance broadening of the infrared absorption bands of molecules in liquids —A. I. Mardaeva, A. F. Bondarev and Yu. S. Rusetskii. **34**(6), 631–2 (Jun. 1973); CPM-7311E0193

Mardaeva, A. I.—Effect of concentration fluctuations in solutions on line widths in molecular vibrational spectra —A. F. Bondarev and A. I. Mardaeva. **35**(2), 167–8 (Aug. 1973); CPM-7312F0091

Margolin, L. N.—Calculation of the reduced moments of inertia for internal rotation in symmetrical molecules —L. N. Margolin, Yu. A. Pentin and V. I. Tyulin. **35**(5), 479–81 (Nov. 1973); CPM-7403D0019

Marisova, S. V.—Properties of surface– and bulk–exciton spectra of an anthracene crystal for various orientations of the wave vector —M. S. Brodin, M. A. Dudinskii and S. V. Marisova. **34**(6), 651–4 (Jun. 1973); CPM-7311E0213

Markov, V.—Some experiments in the study of implicit alignment —S. Kazantsev, V. Markov and M. Chaika. **34**(5), 492–3 (May 1973); CPM-7311E0054

Markova, S. V.—The study of lasing spectra in the vibrational transitions of the CO molecule —A. V. Anokhin, S. V. Markova and G. G. Petrash. **35**(1), 94–5 (Jul. 1973); CPM-7312F1852

Martynov, V. M.—Low–frequency modulation of solid–state laser emission in axial mode–locking conditions —T. N. Zubarev, V. M. Martynov and Yu. A. Tarasov. **34**(4), 433–4 (Apr. 1973); CPM-7310E0395

Marusin, V. D.—Temperature dependence of the cross section for the destruction of metastable helium atoms by argon and xenon atoms —I. P. Bogdanova and V. D. Marusin. **34**(5), 593–5 (May 1973); CPM-7311E0155

Maslov, V. G.—Polarization of electronic transitions in the disodium chlorin complex and its monoanion —V. G. Maslov. **34**(5), 505–7 (May 1973); CPM-7311E0067

Maslov, V. G.—Resonance Raman scattering by liquid solutions of molecular ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov and A. N. Sidorov. **35**(2), 154–7 (Aug. 1973); CPM-7312F0078

Maslyukov, Yu. S.—Amplication and induced absorption in solutions of organic luminophors —A. V. Aristov and Yu. S. Maslyukov. **35**(6), 660–1 (Dec. 1973); CPM-7404E0078

Matinyan, E. G.—Sensitivity and resolution in holographic interferometry of focused images —I. S. Klimenko, E. I. Kucheryavenko and E. G. Matinyan. **34**(2), 203–5 (Feb. 1973); CPM-7310E0165

—Properties of nonlinear recording of focused–image holograms —I. S. Klimenko, E. G. Matinyan and G. V. Skrotskii. **34**(4), 474–5 (Apr. 1973); CPM-7310E0436

Mazanko, I. P.—Measurement of the saturation parameter of a neon–helium mixture at the 3.39–μ wavelength —I. P. Mazanko, N.–D. D. Ogurok and M. V. Sviridov. **35**(3), 327–8 (Sep. 1973); CPM-7312F1603

Mazurenko, Yu. T.—Temperature dependence of luminescence spectra of viscous solutions —Yu. T. Mazurenko. **34**(5), 527–9 (May 1973); CPM-7311E0089

Mazurenko, Yu. T.—Depolarization of photoluminescence by powerful excitation —Yu. T. Mazurenko, V. V. Danilov and S. I. Vorontsova. **35**(1), 107–8 (Jul. 1973); CPM-7312F1865

—Polarization of luminescence of complex molecules under quenching by light —Yu. T. Mazurenko. **35**(2), 137–9 (Aug. 1973); CPM-7312F0061

Mednikova, V. N.—F–f transitions in the spectra of $KMgF_3$ and $NaMgF_3$ crystals activated with Eu^{2+} —S. N. Bodrug, E. G. Valyashko, V. N. Mednikova, D. T. Sviridov and R. K. Sviridov. **34**(2), 176–7 (Feb. 1973); CPM-7310E0138

Medvedev, B. A.—Possibility of creating population inversion and infrared signal amplifications on excited molecular vibration levels in conditions of unsteady induced Raman scattering —M. A. Kovner, B. A. Medvedev and O. M. Parshkov. **34**(4), 404–6 (Apr. 1973); CPM-7310E0366

Medvedev, E. S.—Optical Transitions to Degenerate Electronic Levels —E. S. Medvedev and V. I. Osherov. **34**(1), 29–30 (Jan. 1973); CPM-7308D0053

Medvedev, V. E.—Calculation of the constants of an infinitely narrow beam in spectral instruments —V. E. Medvedev. **34**(2), 215–7 (Feb. 1973); CPM-7310E0177

Medvedev, V. N.—Quadratic pseudo–Stark splitting of a phononless line of N_1 color centers in lithium fluoride —A. A. Kaplyanskii, V. N. Medvedev and A. P. Skvortsov. **35**(4), 382–4 (Oct. 1973); CPM-7402D0124

Melekhin, G. V.—Effect of radiation polarization on the interaction of modes of two lasing channels coupled by a common level —G. V. Melekhin and G. P. Melekhina. **35**(4), 420–5 (Oct. 1973); CPM-7402D0162

—Effect of the resonator lengths of coupled lasing channels on the interaction of standing waves —G. V. Melekhin. **35**(5), 571–2 (Nov. 1973); CPM-7403D0111

Melekhina, G. P.—Effect of radiation polarization on the interaction of modes of two lasing channels coupled by a common level —G. V. Melekhin and G. P. Melekhina. **35**(4), 420–5 (Oct. 1973); CPM-7402D0162

Melnik, V. I.—Special Features of ir Absorption and Fluorescence of Products of Benzophenone Photochemical Reactions —V. I. Melnik, G. A. Puchkovskaya, N. F. Kharchenko and M. P. Shpak. **34**(1), 54–6 (Jan. 1973); CPM-7308D0078

Melnik, V. I.—Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Melnikov, L. D.—Excitation temperature for active nitrogen —A. I. Lyutui and L. D. Melnikov. **34**(4), 385–6 (Apr. 1973); CPM-7310E0347

Men, A. N.—Calculation of optical absorption spectra for paramagnetic ions —N. G. Vanyushina, V. V. Ilyushchenko, A. N. Men and Yu. N. Rezchikov. **35**(6), 638–40 (Dec. 1973); CPM-7404E0056

Mergelyan, O. S.—Transient radiation of a charge crossing an optically active dielectric plate —O. S. Mergelyan and R. M. Rakhmatullaev. **34**(6), 681–2 (Jun. 1973); CPM-7311E0243

Metsik, V. M.—Theoretical and experimental study of localized levels in KCl–Eu^{2+} —I. A. Parfianovich, V. M. Metsik, V. N. Salomatov and E. I. Shuraleva. **35**(5), 509–10 (Nov. 1973); CPM-7403D0049

Mikhailenko, V. I.—Breakdown of a complex spectral contour into individual symmetric bands —V. I. Mikhailenko and V. I. Kucherenko. **35**(4), 370–3 (Oct. 1973); CPM-7402D0112

Mikhailov, A. A.—Radiative charge exchange due to non symmetrical ion–atom collisions —A. A. Mikhailov. **34**(5), 581–3 (May 1973); CPM-7311E0143

Mikhailov, B. A.—Relation between observed and true absorption spectra of molecules in a condensed medium. 7: One of the physical reasons for the failure of Beer's law in concentrated solutions —B. A. Mikhailov, V. M. Zolotarev and N. G. Bakhshiev. **34**(6), 627–30 (Jun. 1973); CPM-7311E0189

Mikhailov, V. M.—Rotational spectra of nonpolar molecules —M. R. Aliev and V. M. Mikhailov. **35**(2), 147–51 (Aug. 1973); CPM-7312F0071

Mikhailova, N. V.—Transformation of neodymium–laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

Mikhalevskii, V. S.—Role of electron deexcitation in populating cadmium and zinc ionic levels —E. L. Latush, V. S. Mikhalevskii and M. F. Sem. **34**(2), 120–3 (Feb. 1973); CPM-7310E0082

Mikhelashvili, M. S.—Influence of Brownian motion on intermolecular energy transfer as a function of the shape and relative position of the spectra —M. S. Mikhelashvili and M. M. Agrest. **35**(6), 636–7 (Dec. 1973); CPM-7404E0054

Mileshina, S. A.—Absorption spectrum of lead vapor in ultraviolet and Schumann regions —M. G. Kozlov, S. A. Mileshina and G. P. Startsev. **35**(1), 89–90 (Jul. 1973); CPM-7312F1847

Minkin, V. I.—Spectral–luminescent properties of azomethines in the quinoid form. I. Anils 3-oxybenzofuran-2-aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. **35**(6), 610–2 (Dec. 1973); CPM-7404E0028

Mirgorodskii, A. N.—Calculation of intensities in an α-quartz crystal as a method of checking on the shapes of the vibrations —A. N. Mirgorodskii and A. N. Lazarev. **34**(5), 514–7 (May 1973); CPM-7311E0076

Mirgorodskii, A. P.—Interpretation and calculation of optical vibrations in the trigonal modification of germanium dioxide crystals —A. P. Mirgorodskii. **34**(6), 667–8 (Jun. 1973); CPM-7311E0229

Mirumyants, S. O.—Fine structure of the fluorescence spectrum of anthracene vapors under anti–Stokes excitation —S. O. Mirumyants, E. A. Vandyukov and Yu. S. Demchuk. **34**(5), 596–7 (May 1973); CPM-7311E0158

Mishakov, V. G.—Effect of hydrogen on the line luminescence of alkali metals and inert gases in a pulsed discharge —V. G. Mishakov, P. A. Pogorelyi and A. M. Shukhtin. **35**(4), 455–6 (Oct. 1973); CPM-7402D0197

Mityugov, V. V.—Conservation laws in processes of nonlinear transformations of light —E. G. Bashkanskii and V. V. Mityugov. **35**(2), 183–5 (Aug. 1973); CPM-7312F0107

Mochalkin, V. N.—Triplet–Triplet Absorption Spectrum of the Biphenyl Molecule —V. N. Mochalkin. **34**(3), 348–9 (Mar. 1973); CPM-7310E0310

Moisya, E. G.—Spectroscopic manifestations of ordering in the positions of phenanthrene molecules in solids solutions —E. G. Moisya, G. M. Semenovich and P. N. Logvinenko. **34**(2), 157–60 (Feb. 1973); CPM-7310E0119

Molchanov, M. I.—Measurement of the natural line width of a traveling-wave He–Ne laser in the 0.63-μ region —V. A. Zborovskii, M. I. Molchanov, A. A. Turkin and N. G. Yaroshenko. **34**(6), 704–5 (Jun. 1973); CPM-7311E0266

Molchanov, M. I.—Measurement of gain distribution in the tube of a helium–neon laser ($\lambda = 0.63$ μm) under high–frequency excitation —V. A. Tsarkov and M. I. Molchanov. **35**(2), 191 (Aug. 1973); CPM-7312F0115

Morgulis, N. D.—De–excitation and population of cesium levels during the decay of a cesium–helium discharge plasma. II —N. D. Morgulis and A. I. Kravchenko. **34**(4), 374–7 (Apr. 1973); CPM-7310E0336

Morina, V. F.—Energy Transfer from Triplet States of Aromatic Ketones to Molecular Oxygen in Liquid Solutions —V. F. Morina and E. B. Sveshnikova. **34**(3), 359–60 (Mar. 1973); CPM-7310E0321

Morozhnikova, L. V.—Luminescence mechanism of pair centers in KI–Tl phosphor —L. P. Smolskaya, I. A. Parfianovich, E. I. Shuraleva and L. V. Morozhnikova. **34**(4), 416–8 (Apr. 1973); CPM-7310E0378

Morozov, E. N.—Collisions of excited atoms under the sensitized fluorescence of Hg–Zn and Hg–Cd —E. N. Morozov and M. L. Sosinskii. **35**(5), 463–6 (Nov. 1973); CPM-7403D0003

Morozov, V. N.—Optical constants of GeO_2 oxides in the 4000–200 cm^{-1} region —V. M. Zolotarev and V. N. Morozov. **34**(2), 181–2 (Feb. 1973); CPM-7310E0143

Morozov, V. P.—Determination of the Potential Constants of the Ammonia Molecule by Means of a Floating One–Center Wave Function —L. V. Belyavskaya and V. P. Morozov. **34**(3), 260–1 (Mar. 1973); CPM-7310E0222

—Anharmonic potential function for a water molecule —V. P. Morozov and N. T. Storchai. **34**(5), 508–9 (May 1973); CPM-7311E0070

Morozova, L. G.—Temperature quenching of uranium luminescence in scheelite–type single crystals —L. G. Morozova and P. P. Feofilov. **35**(4), 458–9 (Oct. 1973); CPM-7402D0200

Motulevich, G. P.—Optical Properties of Palladium —Zh. Duisebaeva, M. I. Korsunskii and G. P. Motulevich. **34**(3), 307–8 (Mar. 1973); CPM-7310E0269

Mukhtarov, E. I.—Calculation of the small–vibration spectra of molecular crystals with allowance for the effect of intramolecular vibrations —E. I. Mukhtarov and A. A. Pichurin. **34**(6), 665–6 (Jun. 1973); CPM-7311E0227

Murakhver, Yu. E.—Some properties of coherent optical fields —V. F. Boitsov, Yu. E. Murakhver and S. G. Slyusarev. **35**(4), 411–4 (Oct. 1973); CPM-7402D0153

Muravev, I. I.—Excitation of Neon in a Glow Discharge —A. N. Soldatov, G. S. Evtushenko and I. I. Muravev. **34**(1), 6–8 (Jan. 1973); CPM-7308D0030

Murina, T. A.—Field and Loss Properties in a Three–Mirror Ring Optical Resonator with a Gaussian Diaphragm —V. F. Boitsov and T. A. Murina. **34**(3), 327–30 (Mar. 1973); CPM-7310E0289

Murtsovkin, V. A.—Two modifications of phosphorus tribromide — A. T. Kozulin, A. V. Gogolev, V. I. Karmanov and V. A. Murtsovkin. **34**(6), 708–9 (Jun. 1973); CPM-7311E0270

Mustafin, K. S.—Effect of hologram aberrations on image quality — G. N. Buinov, R. K. Gizatullin and K. S. Mustafin. **34**(4), 443–6 (Apr. 1973); CPM-7310E0405

—Possibility of using uniaxial holograms for image multiplication —G. N. Buinov and K. S. Mustafin. **34**(5), 539–41 (May 1973); CPM-7311E0101

Mustafin, K. S.—The unscattered component of laser radiation after passing through a rough surface —N. P. Larionov, A. V. Lukin and K. S. Mustafin. **35**(5), 525–7 (Nov. 1973); CPM-7403D0065

N

Naats, I. E.—Estimation of the boundaries of a size spectrum and selection of wavelengths for optical sounding of an atmospheric aerosol —I. E. Naats. **35**(5), 558–60 (Nov. 1973); CPM-7403D0098

Nagibarov, V. R.—Scattering of light by coherent systems —O. N. Godomskii and V. R. Nagibarov. **34**(2), 218–20 (Feb. 1973); CPM-7310E0180

Narozhnaya, T. P.—Role of optically transparent walls in the interferometric method of studying a plasma —A. A. Bakeev, T. P. Narozhnaya and R. E. Rovinskii. **35**(4), 460 (Oct. 1973); CPM-7402D0202

Nasibullin, R. S.—Microwave spectrum of isotope-substituted pyrazole molecules —R. S. Nasibullin, R. G. Latypova, V. S. Troitskaya, V. G. Vinokurov and N. M. Pozdeev. **35**(1), 52–3 (Jul. 1973); CPM-7312F1810

Naumenko, E. K.—Scattering of light by a layer of various degrees of dispersion —A. P. Ivanov, A. P. Prishivalko and E. K. Naumenko. **35**(5), 522–4 (Nov. 1973); CPM-7403D0062

Naumenko, I. G.—Lasing characteristics of dye solutions in dispersive cavities under lamp pumping —I. G. Naumenko, A. M. Korobov and M. I. Dzyubenko. **34**(6), 683–5 (Jun. 1973); CPM-7311E0245

Nazarov, V. I.—Photostimulated thermoluminescence of fluorite crystals doped with rare earth ions —L. S. Kornienko, A. A. Lozhnikov, V. I. Nazarov and P. V. Chernov. **35**(6), 651–3 (Dec. 1973); CPM-7404E0069

Nechaev, A. F.—Sodium color centers in potassium bromide crystals —V. P. Avdonin, A. F. Nechaev and B. T. Plachenov. **35**(4), 379–81 (Oct. 1973); CPM-7402D0121

Nedzvetskii, D. S.—Effect of temperature and excitation intensity on the edge emission of βSiC(Al,N) crystals —Nguen Ngok Long and D. S. Nedzvetskii. **35**(6), 645–7 (Dec. 1973); CPM-7404E0063

Nefedova, E. V.—Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

Negievich, L. A.—A spectral-luminescence study of phototransformations of anthraquinone in hexane —N. I. Litsov, L. A. Negievich and A. A. Kachan. **34**(4), 473–4 (Apr. 1973); CPM-7310E0435

Negodyiko, V. K.—Symmetry in the Raman scattering of light by cubic crystals with localized centers —A. A. Kaplyanskii and V. K. Negodyiko. **35**(3), 269–73 (Sep. 1973); CPM-7312F1545

Nekrylova, I. M.—Use of nonself-reversed line profiles for plasma diagnostics in the burner of a metal-haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

Nepiipov, E. I.—Intensity ratios of the head-term components of the diffuse thallium series —L. L. Shimon, E. I. Nepiipov and I. P. Zapesochnyi. **35**(3), 231–2 (Sep. 1973); CPM-7312F1507

Neporent, B. S.—Spectral-time characteristics of dye-solution lasing in pumping with a series of ultrashort pulses —B. S. Neporent, V. V. Kryukov, G. V. Lukomskii and V. B. Shilov. **35**(3), 309–11 (Sep. 1973); CPM-7312F1585

—Spectral kinetics of the laser action in solutions of various organic substances —B. S. Neporent, V. B. Shilov and G. V. Lukomskii. **35**(3), 312–4 (Sep. 1973); CPM-7312F1588

Neporent, I. B.—Nonradiative deactivation of Cr^{3+} and Co^{3+} ions in frozen solutions —E. B. Sveshnikov and I. B. Neporent. **35**(3), 283–5 (Sep. 1973); CPM-7312F1559

Nersesova, G. N.—Spectral evidence of matrix-isolated and collective centers in frozen n-paraffin solutions —L. A. Klimova, A. I. Ogloblina, G. N. Nersesova and V. I. Glyadkovskii. **35**(5), 488–90 (Nov. 1973); CPM-7403D0028

Nesmelov, E. A.—Antireflection coating of a cutoff filter at a given spectral point —G. P. Konyukhov and E. A. Nesmelov. **34**(5), 562–5 (May 1973); CPM-7311E0124

Nesterova, N. N.—Energy spectra of the layered antiferromagnets Li_2NiF_4, K_2NiF_4 and Rb_2NiF_4 —R. V. Pisarev, A. A. Karamyan, N. N. Nesterova and P. P. Syrnikov. **35**(1), 88–9 (Jul. 1973); CPM-7312F1846

Nesterova, Z. V.—Relaxation nature of the electrooptical effect in lead-magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, Z. V. Nesterova and Yu. V. Popov. **34**(2), 228–9 (Feb. 1973); CPM-7310E0190

Niemark, I. E.—Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Nikitin, L. P.—Luminescence of chromium-ion pairs in ruby in the region of antistokes phonon satellites of the R-lines —L. P. Nikitin, A. Ya. Ryskin and Z. M. Khashkhozhev. **35**(4), 454–5 (Oct. 1973); CPM-7402D0196

Nikitina, A. N.—Investigation of certain properties of substituted chalcones and their vinylogs in the electronically excited state —A. N. Nikitina, G. M. Fedyunina, B. Umirzakov, L. A. Yanovskaya and V. F. Kucherov. **34**(2), 163–5 (Feb. 1973); CPM-7310E0125

Nosenko, A. E.—Optical Absorption and Luminescence Spectra of Zinc- and Cadmium-Tungstate Single Crystals Activated with Chromium (Cr^{3+}) —A. E. Nosenko and D. L. L. Futorskii. **34**(3), 286–7 (Mar. 1973); CPM-7310E0248

Novik, D. A.—Quasi-Holographic Scheme for Scientific Photography —D. A. Novik. **34**(3), 316–9 (Mar. 1973); CPM-7310E0278

Novik, D. A.—Some properties of the quasi-holographic method in scientific photography —D. A. Novik. **35**(3), 318–20 (Sep. 1973); CPM-7312F1594

Novikov, L. N.—Frequency shift of the parametric resonance of atoms surrounded by a radio-frequency field —L. G. Malyshev and L. N. Novikov. **34**(4), 466–7 (Apr. 1973); CPM-7310E0428

O

Obraztsov, G. V.—Characteristics of energy transfer between rare earth ions in sodium borosilicate glasses during microlayering —G. V. Obraztsov, A. L. Reishakhrit and M. N. Tolstoi. **34**(4), 463–4 (Apr. 1973); CPM-7310E0425

Obukhovskii, V. V.—Theory of induced Raman scattering in absorbing media —V. V. Obukhovskii and V. L. Strizhevskii. **35** (1), 27–30 (Jul. 1973); CPM-7312F1785

Odintsov, V. I.—Spiked structure of stimulated emission pulses in rubidium vapor —F. A. Korolev, V. I. Atroshchenko, S. A. Bakhramov and V. I. Odintsov. **34**(5), 591–2 (May 1973); CPM-7311E0153

Oganesyan, S. Kh.—Elimination of diffraction orders from synthesized binary holograms —L. Sh. Egiazaryan, S. Kh. Oganesyan, B. E. Khaikin and V. S. Khitrova. **35**(4), 444–5 (Oct. 1973); CPM-7402D0186

Oginets, O. V.—Quenching collisions in helium observed during the decay of the n^1S_0 and n^3S_1 states —G. S. Kvater, O. V. Oginets, V. B. Smirnov and S. A. Bagaev. **35**(2), 226–7 (Aug. 1973); CPM-7312F0150

Ogloblina, A. I.—Spectral evidence of matrix-isolated and collective centers in frozen n-paraffin solutions —L. A. Klimova, A. I. Ogloblina, G. N. Nersesova and V. I. Glyadkovskii. **35**(5), 488–90 (Nov. 1973); CPM-7403D0028

Ogurok, N.-D. D.—Measurement of the saturation parameter of a neon-helium mixture at the 3.39-μ wavelength —I. P. Mazanko, N.-D. D. Ogurok and M. V. Sviridov. **35**(3), 327–8 (Sep. 1973); CPM-7312F1603

Okhrimenko, B. A.—Determination of oscillator strengths for transitions in HCl-Sn^{2+} solution —M. U. Belyi, I. V. Zakharchenko and B. A. Okhrimenko. **34**(5), 521–4 (May 1973); CPM-7311E0083

—Approximate estimate of the form of molecular vibrations —B. A. Okhrimenko. **34**(6), 719–20 (Jun. 1973); CPM-7311E0281

Onipko, A. I.—Localized biexcitons in molecular crystals —A. I. Onipko and V. I. Sugakov. **34**(6), 655–8 (Jun. 1973); CPM-7311E0217

Onipko, A. I.—Interaction of excitons and exciton annihilation —A. I. Onipko and V. I. Sugakov. **35**(1), 108–9 (Jul. 1973); CPM-7312F1866

Orekhov, B. A.—Raman spectrum of a single crystal of apatite —D. K. Arkhipenko, B. A. Orekhov and R. G. Knubovets. **34**(4), 425–6 (Apr. 1973); CPM-7310E0387

Orekhova, V. P.—Optical absorption spectra of excited Cr^{3+} ions in magnesium spinel at room and liquid nitrogen temperatures —D. T. Sviridov, B. K. Sevastyanov, V. P. Orekhova, R. K. Sviridova and T. F. Veremeichik. **35**(1), 59–61 (Jul. 1973); CPM-7312F1817

Orlov, M. S.—Effect of matrix disorder on anti-Stokes luminescence of Er^{3+} —M. S. Orlov, I. G. Saitkulov and A. L. Stolov. **35**(5), 568–70 (Nov. 1973); CPM-7403D0108

Orlova, I. B.—Investigation of the selective properties of open unstable cavities —G. N. Vinokurov, V. V. Lyubimov and I. B. Orlova. **34**(4), 427–32 (Apr. 1973); CPM-7310E0389

Orlova, N. D.—Profiles of infrared absorption bands and rotational motion of molecules in liquids. Quantum rotation of hydrogen-chloride molecules —N. D. Orlova and L. A. Pozbnyakova. **35**(6), 624–6 (Dec. 1973); CPM-7404E0042

Osherov, V. I.—Optical Transitions to Degenerate Electronic Levels —E. S. Medvedev and V. I. Osherov. **34**(1), 29–30 (Jan. 1973); CPM-7308D0053

Osipov, O. A.—Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Ostroumenko, P. P.—Measurement of relative values of oscillator strengths in the spectra of nickel and cobalt atoms by the method of linear absorption —P. P. Ostroumenko and A. M. Eremenko. **34**(6), 605–6 (Jun. 1973); CPM-7311E0167

Ostrovskaya, E. M.—Temperature shift of the energy levels of the Nd^{3+} ion in yttrium–aluminum–garnet single crystals —E. M. Ostrovskaya, S. A. Sazonova and B. S. Skorobogatov. **34**(2), 178–80 (Feb. 1973); CPM-7310E0140

Ostrovskii, V. S.—Accuracy of potential–curve calculations by the Rydberg–Klein–Rees method —V. S. Ostrovskii and O. S. Pakhomova. **35**(1), 17–9 (Jul. 1973); CPM-7312F1775

Ovander, L. N.—Some features of the appearance of Davydov splitting in Raman spectra —L. N. Ovander. **35**(1), 54–5 (Jul. 1973); CPM-7312F1812

Ovcharenko, P. S.—Spin relaxation of Hg^{199}, Hg^{201} optically oriented atoms in a nonuniform magnetic field —I. E. Grinko, A. N. Kuznetsova, P. S. Ovcharenko, B. I. Vintenkov and Yu. M. Petukhov. **34**(5), 576–7 (May 1973); CPM-7311E0138

Ovchinnikov, A. A.—Higher vibrational states of polyatomic molecules. I —A. A. Ovchinnikov and N. S. Erikhman. **34**(4), 398–400 (Apr. 1973); CPM-7310E0360

—Higher vibrational states of polyatomic molecules. Part 2 —A. A. Ovchinnikov and N. S. Erikhman. **34**(5), 510–1 (May 1973); CPM-7311E0072

Ozorovich, Yu. R.—Influence of edge effects on the incoherent scattering of light by a dispersed phase —G. V. Rozenberg and Yu. R. Ozorovich. **35**(2), 203–5 (Aug. 1973); CPM-7312F0127

P

Pakhomov, P. L.—Separation of the Contributions of Free and Bound Electrons to the Real and Imaginary Parts of the Dielectric Constant of Gold —I. N. Shklyarevskii and P. L. Pakhomov. **34** (1), 90–1 (Jan. 1973); CPM-7308D0114

—Plasma resonance in granular silver and gold films —I. N. Shklyarevskii, P. L. Pakhomov and T. I. Korneeva. **34**(4), 421–4 (Apr. 1973); CPM-7310E0383

Pakhomova, O. S.—Accuracy of potential–curve calculations by the Rydberg–Klein–Rees method —V. S. Ostrovskii and O. S. Pakhomova. **35**(1), 17–9 (Jul. 1973); CPM-7312F1775

Panarin, A. M.—Dichroism in stimulated–Raman–scattering spectra in crystals —A. M. Panarin and V. L. Strizhevskii. **34**(6), 659–60 (Jun. 1973); CPM-7311E0221

Parfianovich, I. A.—Color Centers and Recombination Luminescence in KI–Ag Crystals —E. E. Penzina, I. A. Parfianovich and B. D. Lobanov. **34**(3), 294–7 (Mar. 1973); CPM-7310E0256

—Luminescence mechanism of pair centers in KI–Tl phosphor —L. P. Smolskaya, I. A. Parfianovich, E. I. Shuraleva and L. V. Morozhnikova. **34**(4), 416–8 (Apr. 1973); CPM-7310E0378

Parfianovich, I. A.—Thermally stimulated luminescence in KI phosphors —L. P. Smolskaya, I. A. Parfianovich and E. I. Shuraleva. **35**(4), 385–7 (Oct. 1973); CPM-7402D0127

—Theoretical and experimental study of localized levels in KCl–Eu^{2+} —I. A. Parfianovich, V. M. Metsik, V. N. Salomatov and E. I. Shuraleva. **35**(5), 509–10 (Nov. 1973); CPM-7403D0049

Parshkov, O. M.—Possibility of creating population inversion and infrared signal amplifications on excited molecular vibration levels in conditions of unsteady induced Raman scattering —M. A. Kovner, B. A. Medvedev and O. M. Parshkov. **34**(4), 404–6 (Apr. 1973); CPM-7310E0366

Pavlichuk, T. A.—Experiments to improve image quality —L. A. Khalfin, T. A. Pavlichuk and M. Ya. Shulman. **35**(4), 443–4 (Oct. 1973); CPM-7402D0185

Pavlovskaya, E. N.—Effect of Atomic Collisions on the Population Distribution of Helium Levels —E. N. Pavlovskaya and I. V. Podmoshenskii. **34**(1), 9–11 (Jan. 1973); CPM-7308D0033

Penkin, N. P.—Relative Values of Oscillator Strengths for Spectral Lines of Gd I —N. P. Penkin and V. A. Komarovsky. **34**(1), 1–2 (Jan. 1973); CPM-7308D0025

—Resonance broadening of europium lines due to a $^8S^0_{7/2}$–$y^8P_{9/2,7/2,5/2}$ transitions —N. P. Penkin and L. N. Shabanova. **34**(4), 368–70 (Apr. 1973); CPM-7310E0330

—Excitation of neon 2p–4d lines during collision of the second kind with helium atoms in the 2^1S_0 state —Yu. Z. Ionikh, N. P. Penkin and A. L. Kuranov. **34**(4), 471 (Apr. 1973); CPM-7310E0433

—Resonance broadening of the 377.6–nm thallium line and lifetime of the $7^2S_{1/2}$ level —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **34**(5), 588–9 (May 1973); CPM-7311E0150

Penkin, N. P.—Relative values of oscillator strengths of Nd I spectral lines —N. P. Penkin and V. A. Komarovskii. **35**(1), 4–5 (Jul. 1973); CPM-7312F1762

—Effective cross sections for excitation of spectral lines OI due to collisions of electrons with oxygen atoms and molecules —N. P. Penkin and O. D. Tsygir. **35**(3), 348–9 (Sep. 1973); CPM-7312F1624

—Broadening of the resonance lines of gallium, indium, and thallium atoms due to collisions with atoms of inert gases —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **35**(4), 351–4 (Oct. 1973); CPM-7402D0093

Penkina, N. N.—Calculation of the boundaries of the electrostatic potential at the nucleus and of the constants of nuclear diamagnetic screening in the ground and first excited states of the isoelectronic sequences of helium and lithium —N. N. Penkina and T. K. Rebane. **35**(5), 461–2 (Nov. 1973); CPM-7403D0001

—Semiempirical determination of the interaction energy of an optical electron with the nucleus in monovalent atoms —N. N. Penkina and T. K. Rebane. **35**(6), 583–5 (Dec. 1973); CPM-7404E0001

Pentin, Yu. A.—Vibrational spectrum and force field of the trichloromethoxysilane molecule —V. I. Fedoseeva and Yu. A. Pentin. **35**(1), 43–5 (Jul. 1973); CPM-7312F1801

—Calculation of the reduced moments of inertia for internal rotation in symmetrical molecules —L. N. Margolin, Yu. A. Pentin and V. I. Tyulin. **35**(5), 479–81 (Nov. 1973); CPM-7403D0019

—Calculation of the frequencies and forms of the normal vibrations of pyrrolidine and ND–pyrrolidine —Tran Suan Khoan, Yu. A. Pentin and A. A. Ivlev. **35**(6), 616–8 (Dec. 1973); CPM-7404E0034

Penzina, E. E.—Color Centers and Recombination Luminescence in KI–Ag Crystals —E. E. Penzina, I. A. Parfianovich and B. D. Lobanov. **34**(3), 294–7 (Mar. 1973); CPM-7310E0256

Perelygin, I. S.—Infrared spectra and hydrogen bonds of hydroxyls of chlorosubstituted phenols. IV. effect of temperature on the spectra of liquid and solid phases —I. S. Perelygin and T. F. Akhunov. **34**(5), 512–3 (May 1973); CPM-7311E0074

Permogorov, V. I.—Induced optical activity of dye dimer–deoxyribonucleic acid complexes —V. I. Permogorov. **34**(2), 168–71 (Feb. 1973); CPM-7310E0130

Permogorov, V. I.—Experimental study of the phenomenon of vibronic coupling in intramolecular dimers for the strong bonding case —A. A. Ivanov, A. A. Puretskii and V. I. Permogorov. **35**(3), 265–8 (Sep. 1973); CPM-7312F1541

Perov, A. I.—Some results in the description of solvatochromic phenomena by taking account pairwise van der Waals interactions of molecules —A. I. Perov and N. G. Bakhshiev. **34**(5), 518–20 (May 1973); CPM-7311E0080

Pertsev, A. N.—Mechanism of radiation–induced and photoexcited scintillations in CsI–Tl —I. R. Gulakov and A. N. Pertsev. **35**(3), 286–8 (Sep. 1973); CPM-7312F1562

Petelin, A. N.—Rotational energy of a linear molecule in the $^1\Pi$ electronic state —A. N. Petelin. **35**(1), 20–3 (Jul. 1973); CPM-7312F1778

Petrash, G. G.—The study of lasing spectra in the vibrational transitions of the CO molecule —A. V. Anokhin, S. V. Markova and G. G. Petrash. **35**(1), 94–5 (Jul. 1973); CPM-7312F1852

—Copper vapor pulsed laser with a repetition frequency of 10 kHz — A. A. Isaev, M. A. Kazaryan and G. G. Petrash. **35**(3), 307–8 (Sep. 1973); CPM-7312F1583

Petrashen, A. G.—Relaxation of electron multipole moments and collisional depolarization of resonance fluorescence of an ensemble of atoms in the state with an inner quantum number j=2 —A. G. Petrashen, V. N. Rebane and T. K. Rebane. **35**(3), 240–4 (Sep. 1973); CPM-7312F1516

Petrenko, P. V.—Optical properties of nickel–chromium alloys in the 250 to 1100 nm spectral region —N. Ya. Gorban, V. S. Stashchuk, P. V. Petrenko and A. A. Shishlovskii. **35**(4), 400–2 (Oct. 1973); CPM-7402D0142

Petrenko, V. V.—Spectral distribution of ionization glow of air excited by relativistic electrons —V. D. Volovik, V. V. Petrenko, G. F. Popov and G. L. Fursov. **35**(3), 331–2 (Sep. 1973); CPM-7312F1607

Petrov, G. D.—Determination of the temperature of a relativistic plasma from the scattered–light indicatrix —V. A. Zhuravlev and G. D. Petrov. **34**(4), 456 (Apr. 1973); CPM-7310E0418

—Spectrum of two–photon light scattering by plasma electrons —V. A. Zhuravlev and G. D. Petrov. **34**(5), 586–7 (May 1973); CPM-7311E0148

Petrov, N. S.—Reflectance and transmittance for the interface between an absorbing and a transparent medium —B. B. Boiko, N. S. Petrov and F. I. Fedorov. **35**(6), 677–9 (Dec. 1973); CPM-7404E0095

Petrov, S. Ya.—Absorption analysis of strongly–absorbing substances —S. Ya. Petrov and B. D. Fainberg. **34**(4), 472 (Apr. 1973); CPM-7310E0434

Petrov, V. F.—Unstable asymmetric resonators —V. V. Lyubimov, N. N. Pevgenen and V. F. Petrov. **35**(6), 657–9 (Dec. 1973); CPM-7404E0075

Petsold, O. M.—Photochemical Method for Determining the Efficiency of the Conversion of Molecules into the Triplet State — O. M. Petsold, I. M. Byteva and G. P. Gurinovich. **34**(3), 343–4 (Mar. 1973); CPM-7310E0305

Pettsold, R.—Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov and M. E. Akopyan. **34**(5), 501–2 (May 1973); CPM-7311E0063

Petukhov, Yu. M.—Spin relaxation of Hg^{199}, Hg^{201} optically oriented atoms in a nonuniform magnetic field —I. E. Grinko, A. N. Kuznetsova, P. S. Ovcharenko, B. I. Vintenkov and Yu. M. Petukhov. **34**(5), 576–7 (May 1973); CPM-7311E0138

Pevgenen, N. N.—Unstable asymmetric resonators —V. V. Lyubimov, N. N. Pevgenen and V. F. Petrov. **35**(6), 657–9 (Dec. 1973); CPM-7404E0075

Pichurin, A. A.—Calculation of the small–vibration spectra of molecular crystals with allowance for the effect of intramolecular vibrations —E. I. Mukhtarov and A. A. Pichurin. **34**(6), 665–6 (Jun. 1973); CPM-7311E0227

Pidzyrailo, N. S.—Dependence on the Position of Luminescence Bands Due to Tl^+ Centers on Ionic Radii of Cations and Anions in the Host Lattice of Some Alkali–Halide Crystals —V. N. Vishnevskii and N. S. Pidzyrailo. **34**(3), 338–9 (Mar. 1973); CPM-7310E0300

Pik, E. I.—Properties of thin–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **34**(6), 695–7 (Jun. 1973); CPM-7311E0257

Pik, E. I.—Study of the properties of thick–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **35**(1), 75–6 (Jul. 1973); CPM-7312F1833

Pikulik, L. G.—Spectral dependence of the lifetime of the excited state of vapors of complex molecules —L. G. Pikulik, V. A. Tolkachev and V. A. Yakovenko. **34**(2), 129–32 (Feb. 1973); CPM-7310E0091

Pionkovskaya, M. A.—Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Pirogov, V. D.—Luminescence and excitation spectra of LiH and LiD single crystals at low temperatures —L. A. Rebane, B. V. Vlasov, F. F. Gavrilov, S. O. Cholakh and V. D. Pirogov. **35**(1), 91–2 (Jul. 1973); CPM-7312F1849

Pisarenko, V. F.—Effect of x–rays on NaF–Eu^{3+} single crystals —G. D. Potapenko and V. F. Pisarenko. **34**(4), 461–2 (Apr. 1973); CPM-7310E0423

Pisarev, R. V.—Energy spectra of the layered antiferromagnets Li_2NiF_4, K_2NiF_4 and Rb_2NiF_4 —R. V. Pisarev, A. A. Karamyan, N. N. Nesterova and P. P. Syrnikov. **35**(1), 88–9 (Jul. 1973); CPM-7312F1846

Pismennyi, V. A.—Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

Plachenov, B. T.—Sodium color centers in potassium bromide crystals —V. P. Avdonin, A. F. Nechaev and B. T. Plachenov. **35** (4), 379–81 (Oct. 1973); CPM-7402D0121

Platonova, T. D.—Relative positions of the lowest $\pi\pi^*$– and $n\pi^*$–levels and the photochromism of indoline spiropyrans in relation to the structure of their molecules —I. L. Belaits and T. D. Platonova. **35**(2), 127–30 (Aug. 1973); CPM-7312F0051

Plekhanov, V. G.—Investigation of the Optical Constants of $PbCl_2$ and $PbBr_2$ at 78 K in the Energy Range 3.5–11.0 eV —A. F. Malysheva and V. G. Plekhanov. **34**(3), 302–4 (Mar. 1973); CPM-7310E0264

Plekhotkin, G. A.—A modification of the Jamin interferometer —Yu. G. Kozlov, G. A. Plekhotkin and A. M. Shukhtin. **35**(4), 453–4 (Oct. 1973); CPM-7402D0195

—Rozhdestvenskii interference apparatus with an attachment which includes an image converter —G. A. Plekhotkin and A. M. Shukhtin. **35**(5), 567–8 (Nov. 1973); CPM-7403D0107

Plotnikov, V. G.—Intramolecular nonradiative transitions in the condensed phase —V. G. Plotnikov and G. G. Konoplev. **34**(6), 639–42 (Jun. 1973); CPM-7311E0201

Plotnikov, V. G.—Singlet–doublet and triplet–doublet inductive–resonance energy transfer —I. A. Lisovskaya, V. G. Plotnikov and M. V. Alfimov. **35**(6), 634–5 (Dec. 1973); CPM-7404E0052

Podanchuk, D. V.—Polarization contrast method in holography —I. A. Deryugin, V. N. Kurashov, D. V. Podanchuk and Yu. V. Khoroshkov. **35**(2), 195–9 (Aug. 1973); CPM-7312F0119

Podbiralina, V. P.—Transition probabilities for some Kr II and Xe II lines —V. P. Podbiralina, Yu. M. Smirnov and N. V. Stegnova. **34** (4), 467–8 (Apr. 1973); CPM-7310E0429

Podmoshenskii, I. V.—Effect of Atomic Collisions on the Population Distribution of Helium Levels —E. N. Pavlovskaya and I. V. Podmoshenskii. **34**(1), 9–11 (Jan. 1973); CPM-7308D0033

—Recombination Emission of an Argon Plasma above the Cutoff Frequency —V. Ya. Aleksandrov, D. B. Gurevich and I. V. Podmoshenskii. **34**(1), 12–3 (Jan. 1973); CPM-7308D0036

—Diagnostics of a nonequilibrium Cd–He arc plasma —V. Ya. Aleksandrov, N. S. Gruzdeva, D. B. Gurevich and I. V. Podmoshenskii. **34**(5), 494–7 (May 1973); CPM-7311E0056

Podobedov, V. B.—High–speed recording of Raman spectra of liquids and gases —V. B. Podobedov, A. M. Pyndyk and Kh. E. Sterin. **34** (4), 478–9 (Apr. 1973); CPM-7310E0440

Podobedov, V. B.—Apparatus for the recording of Raman spectra of gases —A. M. Pyndyk and V. B. Podobedov. **35**(1), 31–2 (Jul. 1973); CPM-7312F1789

Pogorelyi, P. A.—Effect of hydrogen on the line luminescence of alkali metals and inert gases in a pulsed discharge —V. G. Mishakov, P. A. Pogorelyi and A. M. Shukhtin. **35**(4), 455–6 (Oct. 1973); CPM-7402D0197

Pokazanev, V. G.—Anisotropy of the g–factor of an atomic system interacting with rotating and oscillating radio–frequency fields —V. V. Zverev and V. G. Pokazanev. **35**(3), 328–30 (Sep. 1973); CPM-7312F1604

Polishchuk, V. A.—Longitudinal alignment of the lasing levels of a helium–neon laser —V. A. Polishchuk, G. Todorov, K. Khartung and M. P. Chaika. **34**(6), 709–11 (Jun. 1973); CPM-7311E0271

Polyanskii, M. N.—Investigation of the Early Stage of Argon Plasma Decay, Part 1 —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(1), 14–6 (Jan. 1973); CPM-7308D0038

—Investigation of the early stage of decay of argon plasma —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(2), 124–6 (Feb. 1973); CPM-7310E0086

Polyanskii, V. K.—Fine structure of a scattered–radiation field —V. K. Polyanskii and L. V. Kovalskii. **35**(2), 200–2 (Aug. 1973); CPM-7312F0124

Ponomarev, O. A.—Some Problems of the Spectroscopy of Organic Compounds —S. I. Kubarev and O. A. Ponomarev. **34**(1), 46–8 (Jan. 1973); CPM-7308D0070

Ponomarev, Yu. I.—Nature of the angular force constants of polyatomic molecules —Yu. I. Ponomarev. **35**(5), 482–3 (Nov. 1973); CPM-7403D0022

Ponomarev, Yu. N.—Self–modulation mechanism of a ruby laser — M. M. Makogon and Yu. N. Ponomarev. **34**(4), 439–40 (Apr. 1973); CPM-7310E0401

Popov, G. F.—Spectral distribution of ionization glow of air excited by relativistic electrons —V. D. Volovik, V. V. Petrenko, G. F. Popov and G. L. Fursov. **35**(3), 331–2 (Sep. 1973); CPM-7312F1607

Popov, K. R.—Determination of the polarizations of electronic transitions by the dischroism method in molecules of low symmetry. I. Relationship between the orientation and structure of molecules introduced into an extenden polymer film —K. R. Popov. **35**(6), 607–9 (Dec. 1973); CPM-7404E0025

Popov, Yu. V.—Relaxation nature of the electrooptical effect in lead–magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, Z. V. Nesterova and Yu. V. Popov. **34**(2), 228–9 (Feb. 1973); CPM-7310E0190

Popov, Yu. V.—Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

Popova, S. I.—Optical constants of Fe_2O_3 in the infrared range of the spectrum —S. I. Popova, T. S. Tolstykh and L. S. Ivlev. **35**(5), 551 (Nov. 1973); CPM-7403D0091

Popova, T. N.—Excitation of the $B^3\Pi_g$ State of Molecular Nitrogen in a Glow Discharge —O. V. Ravodina, T. N. Popova, A. A. Eliseev and S. S. Smolyakov. **34**(3), 243–5 (Mar. 1973); CPM-7310E0205

Postoi, E. N.—Fine structure in excitation functions of cesium beyond the ionization threshold —E. N. Postoi, I. S. Aleksakhin and I. P. Zapesochnyi. **35**(2), 223–4 (Aug. 1973); CPM-7312F0147

Potapenko, G. D.—Effect of x-rays on NaF–Eu^{3+} single crystals — G. D. Potapenko and V. F. Pisarenko. **34**(4), 461–2 (Apr. 1973); CPM-7310E0423

Potapov, S. K.—Change in the polarizability of a molecule and its derivative in the field of a solvent —S. K. Potapov and N. V. Bogachev. **35**(2), 214–6 (Aug. 1973); CPM-7312F0138

—Formulas for probabilities of two–photon electronic–vibrational transitions —M. V. Priyutov and S. K. Potapov. **35**(5), 552–3 (Nov. 1973); CPM-7403D0092

Pozbnyakova, L. A.—Profiles of infrared absorption bands and rotational motion of molecules in liquids. Quantum rotation of hydrogen–chloride molecules —N. D. Orlova and L. A. Pozbnyakova. **35**(6), 624–6 (Dec. 1973); CPM-7404E0042

Pozdeev, N. M.—Microwave spectrum, internal rotation, and dipole moment of 3–methylthiophene —L. N. Gunderova, A. A. Shapkin and N. M. Pozdeev. **34**(6), 703–4 (Jun. 1973); CPM-7311E0265

Pozdeev, N. M.—Microwave spectrum of isotope–substituted pyrazole molecules —R. S. Nasibullin, R. G. Latypova, V. S. Troitskaya, V. G. Vinokurov and N. M. Pozdeev. **35**(1), 52–3 (Jul. 1973); CPM-7312F1810

Pravdin, N. A.—Kinetics of radiation coloring of crystalline quartz — V. V. Soroka and N. A. Pravdin. **34**(6), 671–2 (Jun. 1973); CPM-7311E0233

Predko, K. G.—Distortion and phase–frequency characteristics of objectives —K. G. Predko and A. I. Grodnikov. **34**(5), 569–71 (May 1973); CPM-7311E0131

Predtechenskii, Yu. B.—Absorption and Luminescence Spectra of Li Atoms in Noble Gas Matrices —A. A. Belyaeva, Yu. B. Predtechenskii and L. D. Shcherba. **34**(1), 21–4 (Jan. 1973); CPM-7308D0045

Preobrazhenskii, M. A.—Nonlinear susceptibilities of atomic hydrogen —N. L. Manakov, M. A. Preobrazhenskii and L. P. Rapoport. **35**(1), 14–6 (Jul. 1973); CPM-7312F1772

Preobrazhenskii, N. G.—Elimination of apparatus distortion of a spectral line profile by the statistical regularization method —N. G. Preobrazhenskii and B. Z. Tambovtsev. **35**(5), 547–50 (Nov. 1973); CPM-7403D0087

Prikhodko, L. V.—Temperature dependence of ir absorption in fused quartz at high temperatures —L. V. Prikhodko and Kh. S. Bagdasarov. **34**(6), 702 (Jun. 1973); CPM-7311E0264

Prilezhaev, D. S.—Special Features of Neodymium Glass Generation at a Wavelength of 0.92 μm —O. D. Gavrilov, A. A. Mak, D. S. Prilezhaev, V. I. Ustyugov and V. A. Fromzel. **34**(1), 77–80 (Jan. 1973); CPM-7308D0101

Prishivalko, A. P.—Scattering of light by a layer of various degrees of dispersion —A. P. Ivanov, A. P. Prishivalko and E. K. Naumenko. **35**(5), 522–4 (Nov. 1973); CPM-7403D0062

Prisyazhnyi, V. D.—Effect of the absorption of matter on Raman–line intensity measurements —S. P. Baranov and V. D. Prisyazhnyi. **34**(6), 633–4 (Jun. 1973); CPM-7311E0195

Privalov, V. E.—Oscillations in the discharge gap of He–Ne laser and their effect on the emission parameters —Yu. G. Zakharenko and V. E. Privalov. **35**(4), 434–9 (Oct. 1973); CPM-7402D0176

Priyutov, M. V.—Formulas for probabilities of two–photon electronic–vibrational transitions —M. V. Priyutov and S. K. Potapov. **35**(5), 552–3 (Nov. 1973); CPM-7403D0092

Pronina, O. V.—Chromatic aberrations of real rays —D. Yu. Galpern and O. V. Pronina. **34**(2), 211–4 (Feb. 1973); CPM-7310E0173

Protodyakanov, M. M.—Some formulas for extrapolation of atomic ionization potentials —Yu. V. Zefirov and M. M. Protodyakanov. **34**(4), 458–9 (Apr. 1973); CPM-7310E0420

Przhevalskii, I. N.—Molecular constants of hydrogen peroxide. III. Vibrational–rotational constants —G. A. Khachkuruzov and I. N. Przhevalskii. **35**(2), 216–7 (Aug. 1973); CPM-7312F0140

Przhibelskii, S. G.—Linear susceptibility of a three–level system in an intense nonmonochromatic radiation field —S. G. Przhibelskii. **35**(4), 415–7 (Oct. 1973); CPM-7402D0157

Pshisukha, A. M.—Energy spectrum of Dy^{3+} ion in single crystals of the $KY(MoO_4)_2$–$KDy(MoO_4)_2$ system —T. S. Stetsenko, A. M. Pshisukha, S. D. Elchaninova and A. I. Zvyagin. **34**(2), 227–8 (Feb. 1973); CPM-7310E0189

Puchkovskaya, G. A.—Special Features of ir Absorption and Fluorescence of Products of Benzophenone Photochemical Reactions —V. I. Melnik, G. A. Puchkovskaya, N. F. Kharchenko and M. P. Shpak. **34**(1), 54–6 (Jan. 1973); CPM-7308D0078

Puchkovskaya, G. A.—Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Pugachev, V. L.—Use of Triplet–Triplet Energy Transfer for Determining Quantum Yield of Interconversion into a Triplet State —V. L. Pugachev and A. K. Chibisov. **34**(3), 284–5 (Mar. 1973); CPM-7310E0246

Puretskii, A. A.—Experimental study of the phenomenon of vibronic coupling in intramolecular dimers for the strong bonding case —A. A. Ivanov, A. A. Puretskii and V. I. Permogorov. **35**(3), 265–8 (Sep. 1973); CPM-7312F1541

Putyrskii, V. P.—Thermal relaxation of optically oriented atoms colliding with a surface —V. P. Putyrskii. **35**(6), 593–5 (Dec. 1973); CPM-7404E0011

—Relaxation of optically oriented atoms in a nonuniform magnetic field —S. P. Dovgopol, V. P. Putyrskii and S. L. Votyakov. **35**(6), 596–9 (Dec. 1973); CPM-7404E0014

Pyndyk, A. M.—High–speed recording of Raman spectra of liquids and gases —V. B. Podobedov, A. M. Pyndyk and Kh. E. Sterin. **34**(4), 478–9 (Apr. 1973); CPM-7310E0440

Pyndyk, A. M.—Apparatus for the recording of Raman spectra of gases —A. M. Pyndyk and V. B. Podobedov. **35**(1), 31–2 (Jul. 1973); CPM-7312F1789

R

Rakhmatullaev, R. M.—Transient radiation of a charge crossing an optically active dielectric plate —O. S. Mergelyan and R. M. Rakhmatullaev. **34**(6), 681–2 (Jun. 1973); CPM-7311E0243

Ralko, N. E.—Features of exciton absorption in molecular crystals when Fermi resonance is present —M. P. Lisitsa, A. M. Yaremko and N. E. Ralko. **35**(6), 641–4 (Dec. 1973); CPM-7404E0059

Rapoport, L. P.—Nonlinear susceptibilities of atomic hydrogen —N. L. Manakov, M. A. Preobrazhenskii and L. P. Rapoport. **35**(1), 14–6 (Jul. 1973); CPM-7312F1772

—Green's function and the dynamic polarizability of H_2^+ —V. A. Davydkin and L. P. Rapoport. **35**(2), 218–9 (Aug. 1973); CPM-7312F0142

Rautian, S. G.—Some Characteristics of Resonant Raman Scattering —S. G. Rautian and Ya. S. Bobovich. **34**(3), 356–7 (Mar. 1973); CPM-7310E0318

Ravodina, O. V.—Excitation of the $B^3\Pi_g$ State of Molecular Nitrogen in a Glow Discharge —O. V. Ravodina, T. N. Popova, A. A. Eliseev and S. S. Smolyakov. **34**(3), 243–5 (Mar. 1973); CPM-7310E0205

Razumova, T. K.—Induced absorption of polymethine dyes —A. M. Bonch–Bruevich, T. K. Razumova and G. M. Rubanova. **34**(2), 172–5 (Feb. 1973); CPM-7310E0134

Razumova, T. K.—Studies on the character of broadening of the energy states of polymethine–dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and I. O. Starobogatov. **35**(4), 374–6 (Oct. 1973); CPM-7402D0116

—Induced absorption of polymethine dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and G. M. Rubanova. **35**(5), 484–7 (Nov. 1973); CPM-7403D0024

Rebane, L. A.—Luminescence and excitation spectra of LiH and LiD single crystals at low temperatures —L. A. Rebane, B. V. Vlasov, F. F. Gavrilov, S. O. Cholakh and V. D. Pirogov. **35**(1), 91–2 (Jul. 1973); CPM-7312F1849

Rebane, T. K.—Depolarization of fluorescence of atoms due to collisions in the presence of hyperfine structure. III: Perturbation theory —V. N. Rebane and T. K. Rebane. **34**(4), 378–81 (Apr. 1973); CPM-7310E0340

—Inequalities for nonrelativistic total energies and potential energy components of isoelectronic atoms —T. K. Rebane. **34**(5), 488–91 (May 1973); CPM-7311E0050

—Application of the modified adiabatic approximation to the helium atom —T. K. Rebane and F. P. Smirnov. 34(6), 601–4 (Jun. 1973); CPM-7311E0163

Rebane, T. K.—Relaxation of electron multipole moments and collisional depolarization of resonance fluorescence of an ensemble of atoms in the state with an inner quantum number j=2 —A. G. Petrashen, V. N. Rebane and T. K. Rebane. 35(3), 240–4 (Sep. 1973); CPM-7312F1516

—Calculation of the boundaries of the electrostatic potential at the nucleus and of the constants of nuclear diamagnetic screening in the ground and first excited states of the isoelectronic sequences of helium and lithium —N. N. Penkina and T. K. Rebane. 35(5), 461–2 (Nov. 1973); CPM-7403D0001

—Semiempirical determination of the interaction energy of an optical electron with the nucleus in monovalent atoms —N. N. Penkina and T. K. Rebane. 35(6), 583–5 (Dec. 1973); CPM-7404E0001

Rebane, V. N.—Depolarization of fluorescence of atoms due to collisions in the presence of hyperfine structure. III: Perturbation theory —V. N. Rebane and T. K. Rebane. 34(4), 378–81 (Apr. 1973); CPM-7310E0340

Rebane, V. N.—Relaxation of electron multipole moments and collisional depolarization of resonance fluorescence of an ensemble of atoms in the state with an inner quantum number j=2 —A. G. Petrashen, V. N. Rebane and T. K. Rebane. 35(3), 240–4 (Sep. 1973); CPM-7312F1516

Redkin, Yu. R.—Phosphorescence of aromatic compounds at 77 K, 20 K, and 4 K. Quasilinear spectra of diphenylene oxide at 4 K — P. A. Teplyakov, V. P. Grosul and Yu. R. Redkin. 34(6), 662–4 (Jun. 1973); CPM-7311E0224

Reishakhrit, A. L.—Characteristics of energy transfer between rare earth ions in sodium borosilicate glasses during microlayering —G. V. Obraztsov, A. L. Reishakhrit and M. N. Tolstoi. 34(4), 463–4 (Apr. 1973); CPM-7310E0425

Remizov, A. B.—Vibrational spectra and conformation of phosphorus- and arsenic-containing heterocyclic compounds —A. B. Remizov, R. R. Shakhidullin, D. F. Fazliev and T. G. Mannafov. 34(2), 142–3 (Feb. 1973); CPM-7310E0104

Remizov, A. N.—Four frequency structure of the CO_2 laser pulse — V. V. Berezovskii, Yu. A. Bykovskii, N. A. Blinov and A. N. Remizov. 35(1), 98–100 (Jul. 1973); CPM-7312F1856

Rents, V. B.—Out-of-Plane Vibrations of Perylene —L. M. Babkov, M. A. Kovner and V. B. Rents. 34(3), 354–5 (Mar. 1973); CPM-7310E0316

Reut, E. G.—Special features of luminescence of a Pr^{3+} ion in a scheelite-type crystals under excitation into the charge transfer band —E. G. Reut and A. I. Ryskin. 35(4), 391–3 (Oct. 1973); CPM-7402D0133

—Virtual charge exchange as a mechanism of non-radiative transition between terms of rare-earth ions in scheelite and fergusonite type crystals —E. G. Reut and A. I. Ryskin. 35(5), 501–4 (Nov. 1973); CPM-7403D0041

Rezchikov, Yu. N.—Calculation of optical absorption spectra for paramagnetic ions —N. G. Vanyushina, V. V. Ilyushchenko, A. N. Men and Yu. N. Rezchikov. 35(6), 638–40 (Dec. 1973); CPM-7404E0056

Reznik, L. E.—Polarized phosphorescence and absorption of crystalline silver nitrite —L. E. Reznik and P. R. Garber. 34(2), 237–8 (Feb. 1973); CPM-7310E0199

Rodionov, A. N.—Calculation of the frequencies of the in-plane vibrations of nitrobenzene —K. M. Danchinov, E. A. Gastilovich, A. N. Rodionov and D. N. Shigorin. 34(4), 456–8 (Apr. 1973); CPM-7310E0418

Romanov, N. G.—Nature of EPR Signals in Nuclear Photoemulsions —R. A. Zhitnikov, N. P. Kocherov, N. G. Romanov and V. A. Khramtsov. 34(1), 106–7 (Jan. 1973); CPM-7308D0130

Romanov, V. P.—Isotropic and Anisotropic Light Scattering in Relaxating Fluids —V. P. Romanov, V. A. Solovev and L. S. Filatova. 34(3), 309–15 (Mar. 1973); CPM-7310E0271

Romanyuk, N. A.—Infrared Reflection Spectra of Seignette-Salt Single Crystals —I. F. Viblyi, N. A. Romanyuk and V. V. Turkevich. 34(3), 298–301 (Mar. 1973); CPM-7310E0260

Romanyuk, N. A.—Fundamental reflectance spectra of triglycine sulfate —Z. S. Vasilina and N. A. Romanyuk. 35(2), 177–8 (Aug. 1973); CPM-7312F0101

Romodanova, E. A.—Absorption spectra of internally-complexed divalent copper compounds —E. A. Romodanova and A. E. Lutskii. 34(5), 583–4 (May 1973); CPM-7311E0145

Rostovikova, G. S.—Measurements of Cross Section for Excitation of Xenon Lines by Electron Impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. 34(1), 3–5 (Jan. 1973); CPM-7308D0027

Rostovikova, G. S.—Excitation of Ar III by electron impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. 35(2), 222–3 (Aug. 1973); CPM-7312F0146

—Optical cross sections for Ar I and Kr I —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. 35(3), 343 (Sep. 1973); CPM-7312F1619

—Measurement of electron-impact excitation cross sections for Kr-II and Kr-III lines —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. 35(6), 600–2 (Dec. 1973); CPM-7404E0018

Rovinskii, R. E.—Role of optically transparent walls in the interferometric method of studying a plasma —A. A. Bakeev, T. P. Narozhnaya and R. E. Rovinskii. 35(4), 460 (Oct. 1973); CPM-7402D0202

Rozanov, N. N.—Theory of the locking phenomenon in a gas ring laser. I.—Yu. P. Gudkov and N. N. Rozanov. 35(4), 426–31 (Oct. 1973); CPM-7402D0168

Rozenberg, G. V.—Influence of edge effects on the incoherent scattering of light by a dispersed phase —G. V. Rozenberg and Yu. R. Ozorovich. 35(2), 203–5 (Aug. 1973); CPM-7312F0127

Rozenberg, Yu. I.—Quadrupole Relaxation and the Hydrogen Bond in Crystalline Chloroform and Its Complexes —I. A. Kyuntsel and Yu. I. Rozenberg. 34(3), 341–2 (Mar. 1973); CPM-7310E0303

Rozhdestvenskaya, N. B.—Distinctive features of the component structure of depolarized light scattered by quinoline —L. A. Zubkov and N. B. Rozhdestvenskaya. 34(5), 587–8 (May 1973); CPM-7311E0149

Rozhko, A. Kh.—Determination of the Optical Density of Semiconductor Layers on Transparent Substrates —M. W. Kurik and A. Kh. Rozhko. 34(3), 305–6 (Mar. 1973); CPM-7310E0267

Rozman, I. M.—Quenching of anthracene fluorescence by carbon tetrachloride —E. A. Andreeshchev, V. S. Viktorova, S. F. Kilin and I. M. Rozman. 34(5), 530–2 (May 1973); CPM-7311E0092

Rozman, S. P.—Interpretation of luminescence spectra of uranyl molybdate and uranyl tungstate —V. F. Zolin, S. P. Rozman and P. S. Fisher. 35(3), 345–6 (Sep. 1973); CPM-7312F1621

Rubailo, A. I.—Raman Spectra of Lattice Vibrations in Symmetric 1,2,3 Trihalogenobenzene —A. I. Rubailo, V. F. Shabanov and V. E. Volkov. 34(3), 268–70 (Mar. 1973); CPM-7310E0230

Rubanov, A. S.—Self-diffraction of coherent radiation interacting with transparent substances —A. S. Rubanov and E. V. Ivakin. 34 (6), 686–8 (Jun. 1973); CPM-7311E0248

Rubanova, G. M.—Induced absorption of polymethine dyes —A. M. Bonch-Bruevich, T. K. Razumova and G. M. Rubanova. 34(2), 172–5 (Feb. 1973); CPM-7310E0134

Rubanova, G. M.—Induced absorption of polymethine dye solutions —A. M. Bonch-Bruevich, T. K. Razumova and G. M. Rubanova. 35(5), 484–7 (Nov. 1973); CPM-7403D0024

Rubinov, A. N.—Determination of the oxygen quenching constant for the triplet state of rhodamine 6G using lasing characteristics —T. S. Smolskaya, A. N. Rubinov and M. M. Asimov. 34(2), 231–3 (Feb. 1973); CPM-7310E0193

—Effect of quenchers on fluorescence spectra of polar solutions of dyes —V. I. Tomin, A. N. Rubinov and V. F. Voronin. 34(6), 643–5 (Jun. 1973); CPM-7311E0205

Rubinov, A. N.—Quick-damping absorption in polymethine dyes induced by picosecond pulses of ruby-laser emission —A. N. Rubinov and I. M. Korda. 35(2), 221–2 (Aug. 1973); CPM-7312F0145

—Shift in the flourescence spectrum of molecules in a nonresonant-laser field —A. N. Rubinov, V. I. Tomin and V. A. Zhivnov. 35(4), 451–2 (Oct. 1973); CPM-7402D0193

Rukman, G. I.—Holographic spectroscopy of ultrahigh resolution — M. L. Gurari, G. I. Rukman and V. K. Sakharov. 34(6), 715–6 (Jun. 1973); CPM-7311E0277

Rumyantsev, E. I.—Spin exchange between triplet excitons —E. I. Rumyantsev and K. M. Salikhov. 35(3), 332–4 (Sep. 1973); CPM-7312F1608

Rusetskii, Yu. S.—Resonance broadening of the infrared absorption bands of molecules in liquids —A. I. Mardaeva, A. F. Bondarev and Yu. S. Rusetskii. 34(6), 631–2 (Jun. 1973); CPM-7311E0193

Ruzov, V. P.—Resonance broadening of the 377.6-nm thallium line and lifetime of the $7^2S_{1/2}$ level —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. 34(5), 588–9 (May 1973); CPM-7311E0150

Ruzov, V. P.—Broadening of the resonance lines of gallium, indium, and thallium atoms due to collisions with atoms of inert gases — N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **35**(4), 351–4 (Oct. 1973); CPM-7402D0093

Ryabchenko, S. M.—Spin memory of Eu^{2+} in CaF_2 —A. V. Komarov and S. M. Ryabchenko. **35**(1), 100–1 (Jul. 1973); CPM-7312F1858

—Magnetooptical study of Eu^{2+} in CaF_2 —A. V. Komarov and S. M. Ryabchenko. **35**(4), 388–90 (Oct. 1973); CPM-7402D0130

Ryabova, V. V.—Calculation of the vibrational spectrum of isobutyronitrile —V. M. Baryshev, V. V. Ryabova and R. Sh. Frenkel. **35**(3), 338–9 (Sep. 1973); CPM-7312F1614

Ryadov, V. Ya.—Measurement of the parameters of the absorption line $\lambda_0 = 398$ μm in the rotational spectrum of water vapor —V. Ya. Ryadov and N. I. Furashov. **35**(3), 255–7 (Sep. 1973); CPM-7312F1531

Rybachenko, V. I.—Empirical calculation of the intensities of the NH valence vibrations of the fragment $-NH-NH_2$ —S. I. Chekushin, E. V. Titov and V. I. Rybachenko. **35**(5), 576 (Nov. 1973); CPM-7403D0116

Rybalka, A. I.—Ellipsometry of thin two-layer coatings on metal substrates —A. I. Rybalka and I. N. Shklyarevskii. **35**(6), 681–2 (Dec. 1973); CPM-7404E0099

Rykova, V. V.—Temperature dependence of the lifetime of excited UO_2^{2+} ions in frozen sulfuric acid solutions: role of structural transitions —V. P. Kazakov, V. N. Korobeinikov, Yu. N. Chuvilin, V. V. Rykova and I. G. Kovelzon. **35**(5), 576–7 (Nov. 1973); CPM-7403D0116

Ryltsev, E. V.—Identification of the $\nu P{=}O$ and $\nu C{-}O$ Bands in the Infrared Spectra of Complexes of Trimethylphosphine Oxide with Carboxylic Acids —G. V. Gusakova, E. V. Ryltsev and A. L. Smolyanskii. **34**(3), 262–4 (Mar. 1973); CPM-7310E0224

Ryltsev, E. V.—Splitting of the ν ($C{\equiv}N$) band of acetonitrile on intermolecular interaction with antimony trichloride in solution — Yu. P. Egorov, E. V. Ryltsev and I. F. Tsymbal. **35**(2), 165–6 (Aug. 1973); CPM-7312F0089

Ryskin, A. I.—Special features of luminescence of a Pr^{3+} ion in a scheelite-type crystals under excitation into the charge transfer band —E. G. Reut and A. I. Ryskin. **35**(4), 391–3 (Oct. 1973); CPM-7402D0133

—Virtual charge exchange as a mechanism of non-radiative transition between terms of rare-earth ions in scheelite and fergusonite type crystals —E. G. Reut and A. I. Ryskin. **35**(5), 501–4 (Nov. 1973); CPM-7403D0041

Ryskin, A. Ya.—Luminescence of chromium-ion pairs in ruby in the region of antistokes phonon satellites of the R-lines —L. P. Nikitin, A. Ya. Ryskin and Z. M. Khashkhozhev. **35**(4), 454–5 (Oct. 1973); CPM-7402D0196

Ryumtsev, E. I.—Anisotropy of the molar refraction of liquid crystalline p, p′-dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35**(5), 511–2 (Nov. 1973); CPM-7403D0051

S

Sadykov, A. N.—Effect of the electrooptical anharmonicity of vibrations on the probabilities of vibrational transitions of molecules in dipolar liquids —A. N. Sadykov and M. M. Zaripov. **35**(6), 622–3 (Dec. 1973); CPM-7404E0040

Safronov, G. M.—Optical activity of a thallium-uranyl-propionate crystal —Z. M. Alikhanova, V. I. Burkov, V. A. Kizel, Yu. I. Krasilov, V. A. Madii and G. M. Safronov. **34**(5), 573–4 (May 1973); CPM-7311E0135

—Gyrotropy of sillenite-type crystals —V. A. Kizel, V. I. Burkov, Yu. I. Krasilov, N. L. Kozlova, G. M. Safronov and V. N. Batog. **34**(6), 677–80 (Jun. 1973); CPM-7311E0239

Safronov, G. M.—Comparative study of optical activity in α-$NiSO_4.6H_2O$ and α-$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Saitkulov, I. G.—Effect of matrix disorder on anti-Stokes luminescence of Er^{3+} —M. S. Orlov, I. G. Saitkulov and A. L. Stolov. **35**(5), 568–70 (Nov. 1973); CPM-7403D0108

Sakharov, V. K.—Holographic spectroscopy of ultrahigh resolution — M. L. Gurari, G. I. Rukman and V. K. Sakharov. **34**(6), 715–6 (Jun. 1973); CPM-7311E0277

Sakhnovskii, M. Yu.—Electronic absorption and emission spectra of naphthalene and napthylamine molecules adsorbed on zeolites and some amorphous adsorbents —A. A. Eremenko, F. M. Bobonitz, M. V. Kost, M. A. Pionkovskaya, M. Yu. Sakhnovskii and I. E. Niemark. **35**(2), 131–3 (Aug. 1973); CPM-7312F0055

Sakhnovskii, M. Yu.—Range of application of the double-flow approximation for determining the absorption of scattering objects —M. Yu. Sakhnovskii and A. F. Kotik. **34**(6), 689–91 (Jun. 1973); CPM-7311E0251

Salikhov, K. M.—Spin exchange between triplet excitons —E. L. Rumyantsev and K. M. Salikhov. **35**(3), 332–4 (Sep. 1973); CPM-7312F1608

Salomatov, V. N.—Theoretical and experimental study of localized levels in KCl-Eu^{2+} —I. A. Parfianovich, V. M. Metsik, V. N. Salomatov and E. I. Shuraleva. **35**(5), 509–10 (Nov. 1973); CPM-7403D0049

Samarin, V. I.—Some special features of vector synchronous interaction of light waves in anistropic crystals —G. V. Krivoshchekov, V. I. Stroganov, V. I. Samarin and V. M. Tarasov. **34**(2), 196–7 (Feb. 1973); CPM-7310E0158

Samartsev, V. V.—Light-echo study of hyperfine and superhyperfine interactions —Z. M. Kaveeva and V. V. Samartsev. **35**(2), 219–20 (Aug. 1973); CPM-7312F0143

—Polarization superradiation —V. V. Samartsev and Z. M. Kaveeva. **35**(5), 560–1 (Nov. 1973); CPM-7403D0100

Samoilov, V. P.—Measurements of Cross Section for Excitation of Xenon Lines by Electron Impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **34**(1), 3–5 (Jan. 1973); CPM-7308D0027

Samoilov, V. P.—Excitation of Ar III by electron impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(2), 222–3 (Aug. 1973); CPM-7312F0146

—Optical cross sections for Ar I and Kr I —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(3), 343 (Sep. 1973); CPM-7312F1619

—Measurement of electron-impact excitation cross sections for Kr-11 and Kr-111 lines —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(6), 600–2 (Dec. 1973); CPM-7404E0018

Samoilova, R. N.—Method of Calculating the Energy of Optical Transitions from the Valence Band to the Conduction Band in the Framework of a Simplified Model of a Condensed Medium —S. A. Kutolin and R. N. Samoilova. **34**(1), 67–8 (Jan. 1973); CPM-7308D0091

Saprykin, E. G.—Self-mode-selection of a 0.63μm laser with increased pressure in the discharge tube —E. G. Saprykin, R. N. Yudin and S. N. Atutov. **34**(4), 435–8 (Apr. 1973); CPM-7310E0397

—Identifying spectrograms from a Fabry-Perot spectrometer —V. P. Kochanov and E. G. Saprykin. **34**(5), 579–81 (May 1973); CPM-7311E0141

Saprykin, E. G.—Some anomalies in the absorption of a light wave by a medium in a magnetic field —Im Tkhek-de, E. G. Saprykin and A. M. Shalagin. **35**(2), 118–9 (Aug. 1973); CPM-7312F0042

Sapunov, V. V.—Triplet-triplet absorption and phosphorescence of metal-porphyrin complexes in liquid solutions —M. P. Tsvirko, V. V. Sapunov and K. N. Solovev. **34**(6), 635–8 (Jun. 1973); CPM-7311E0197

Sattarov, D. K.—Microcontrast of Fiber Optics Elements —D. K. Sattarov, A. A. Lunkina and G. Ya. Konaeva. **34**(1), 95–7 (Jan. 1973); CPM-7308D0119

—Three-Ring Effect in Flexible Fiber Optics Bundles —G. Ya. Konaeva, D. K. Sattarov, T. D. Kulda and I. P. Gryaznova. **34**(1), 98–100 (Jan. 1973); CPM-7308D0122

Sattarov, D. K.—Noise in fiber-optics elements —A. A. Lunkina and D. K. Sattarov. **35**(1), 84–7 (Jul. 1973); CPM-7312F1842

Sazonov, I. E.—Classical Calculation of the Intensity Distribution in the Vibrational-Rotational Spectra of Diatomic Molecules —I. E. Sazonov and N. I. Zhirnov. **34**(3), 254–6 (Mar. 1973); CPM-7310E0216

Sazonova, S. A.—Temperature shift of the energy levels of the Nd^{3+} ion in yttrium-aluminum-garnet single crystals —E. M. Ostrovskaya, S. A. Sazonova and B. S. Skorobogatov. **34**(2), 178–80 (Feb. 1973); CPM-7310E0140

Sazonova, S. A.—Temperature shift of Nd^{3+} energy levels in $CaWO_4$ crystals —V. I. Bonchkovskii, V. A. Kobzar-Zlenko, S. A. Sazonova and B. S. Skorobogatov. **35**(3), 281–2 (Sep. 1973); CPM-7312F1557

Sechkarev, A. V.—Manifestation of weak intermolecular interactions in the vibrational spectra of solutions of polar substances in nonpolar solvents —A. V. Sechkarev and G. E. Trostentsova. **34** (4), 407–11 (Apr. 1973); CPM-7310E0369

Sem, M. F.—Role of electron deexcitation in populating cadmium and zinc ionic levels —E. L. Latush, V. S. Mikhalevskii and M. F. Sem. **34**(2), 120–3 (Feb. 1973); CPM-7310E0082

Semenchenko, V. K.—Investigation of the refractive indices of quartz in the α–β transition region —V. K. Semenchenko and I. T. Bodnar. **35**(1), 56–8 (Jul. 1973); CPM-7312F1814

—An optical study of the characteristics of the α, β transition in Al-doped quartz —V. K. Semenchenko and I. T. Bodnar. **35**(3), 335–6 (Sep. 1973); CPM-7312F1611

Semenenko, A. I.—Ellipsometry based on a convergent light beam — K. K. Svitashev, A. I. Semenenko, L. V. Semenenko and V. K. Sokolov. **34**(5), 542–4 (May 1973); CPM-7311E0104

Semenenko, L. V.—Ellipsometry based on a convergent light beam —K. K. Svitashev, A. I. Semenenko, L. V. Semenenko and V. K. Sokolov. **34**(5), 542–4 (May 1973); CPM-7311E0104

Semenovich, G. M.—Spectroscopic manifestations of ordering in the positions of phenanthrene molecules in solids solutions —E. G. Moisya, G. M. Semenovich and P. N. Logvinenko. **34**(2), 157–60 (Feb. 1973); CPM-7310E0119

Semin, G. S.—Comparative study of optical activity in α–$NiSO_4.6H_2O$ and α–$NiSeO_4.6H_2O$ crystals —V. I. Burkov, V. A. Kizel, I. N. Ivanova, G. M. Safronov, G. S. Semin and P. A. Cheltsov. **35**(5), 513–4 (Nov. 1973); CPM-7403D0053

Senashenko, V. S.—Excitation of ^1S and ^1D autoionization states and resonance ionization of a helium atom by electron impact —S. S. Lipovetskii and V. S. Senashenko. **34**(6), 607–10 (Jun. 1973); CPM-7311E0169

Senashenko, V. S.—Generalized differential oscillator strengths of the helium atom near the $(2s2p)^1P^{(-)}$ autoionization state —V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **35**(1), 6–7 (Jul. 1973); CPM-7312F1764

Sepman, V. Yu.—Filling of the Upper Levels in the Optical Excitation of Cesium Vapor —A. N. Klyucharev and V. Yu. Sepman. **34**(3), 241–2 (Mar. 1973); CPM-7310E0203

Sergeenko, T. N.—Reduction in zero-order background light in optical signal processing systems —V. I. Yakovlev and T. N. Sergeenko. **35**(3), 321–2 (Sep. 1973); CPM-7312F1597

Sergeev, Yu. L.—Photoionization processes in molecular iodine —M. E. Akopyan, F. I. Vilesov and Yu. L. Sergeev. **35**(5), 472–5 (Nov. 1973); CPM-7403D0012

Serov, R. V.—Intrashell transitions in the spectra of multicharged phosphorus ions —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev and R. V. Serov. **35**(6), 586–9 (Dec. 1973); CPM-7404E0004

Sevastyanov, B. K.—Optical absorption spectra of excited Cr^{3+} ions in magnesium spinel at room and liquid nitrogen temperatures — D. T. Sviridov, B. K. Sevastyanov, V. P. Orekhova, R. K. Sviridova and T. F. Veremeichik. **35**(1), 59–61 (Jul. 1973); CPM-7312F1817

Shabanov, V. F.—Raman Spectra of Lattice Vibrations in Symmetric 1,2,3 Trihalogenobenzene —A. I. Rubailo, V. F. Shabanov and V. E. Volkov. **34**(3), 268–70 (Mar. 1973); CPM-7310E0230

Shabanova, L. N.—Resonance broadening of europium lines due to a $^8S^0_{7/2}$–$y^8P_{9/2,7/2,5/2}$ transitions —N. P. Penkin and L. N. Shabanova. **34**(4), 368–70 (Apr. 1973); CPM-7310E0330

—Resonance broadening of the 377.6-nm thallium line and lifetime of the $7^2S_{1/2}$ level —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **34**(5), 588–9 (May 1973); CPM-7311E0150

Shabanova, L. N.—Broadening of the resonance lines of gallium, indium, and thallium atoms due to collisions with atoms of inert gases —N. P. Penkin, V. P. Ruzov and L. N. Shabanova. **35**(4), 351–4 (Oct. 1973); CPM-7402D0093

Shablya, A. V.—Quenching of luminescence in hydrogen-bonded complexes. Investigation of model systems aromatic hydrocarbons —salts of nitrogen heterocyclics —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(5), 584–5 (May 1973); CPM-7311E0146

—Mechanism of the effect of aliphatic amines on the fluorescence of 2-naphthol —A. A. Krasheninnikov and A. V. Shablya. **34**(6), 705–6 (Jun. 1973); CPM-7311E0267

—Effect of temperature on the luminescence quenching constant in hydrogen bonded complexes —V. L. Ermolaev, A. A. Krasheninnikov and A. V. Shablya. **34**(6), 718–9 (Jun. 1973); CPM-7311E0280

Shadrin, O. P.—Calculation of Franck–Condon Factors for a Morse Oscillator by a Generalized WKB Approximation —O. P. Shadrin and N. I. Zhirnov. **34**(3), 337–8 (Mar. 1973); CPM-7310E0299

Shaganov, I. I.—Optical characteristics of a fluoroapatite single crystal in the infrared —I. I. Shaganov and V. S. Libov. **35**(1), 106–7 (Jul. 1973); CPM-7312F1864

Shakhidullin, R. R.—Vibrational spectra and conformation of phosphorus- and arsenic-containing heterocyclic compounds —A. B. Remizov, R. R. Shakhidullin, D. F. Fazliev and T. G. Mannafov. **34**(2), 142–3 (Feb. 1973); CPM-7310E0104

Shakhverdov, T. A.—Nonradiative energy transfer from rare earth ions to dyes. III. Effect of ionic Coulomb interaction on dipole–dipole energy transfer in water —T. A. Shakhverdov and E. N. Bodunov. **34**(6), 646–50 (Jun. 1973); CPM-7311E0208

Shakhverdov, T. A.—Nonradiative energy transfer from rare earth ions to organic radicals —T. A. Shakhverdov. **35**(1), 96–7 (Jul. 1973); CPM-7312F1854

Shalagin, A. M.—Some anomalies in the absorption of a light wave by a medium in a magnetic field —Im Tkhek-de, E. G. Saprykin and A. M. Shalagin. **35**(2), 118–9 (Aug. 1973); CPM-7312F0042

Shaldin, Yu. V.—Anisotropy of a nonlinear refractive index in acentric crystals: linear electrooptic effect —Yu. V. Shaldin and D. A. Belogurov. **35**(4), 403–7 (Oct. 1973); CPM-7402D0145

Shalyapin, A. L.—Measuring technique for parameter for losses in cavities of solid state lasers —M. G. Zuev, A. L. Shalyapin and F. F. Gavrilov. **34**(4), 459–60 (Apr. 1973); CPM-7310E0421

Shapkin, A. A.—Microwave spectrum, internal rotation, and dipole moment of 3-methylthiophene —L. N. Gunderova, A. A. Shapkin and N. M. Pozdeev. **34**(6), 703–4 (Jun. 1973); CPM-7311E0265

Shatseva, L. S.—Direct Determination of the Number of Triplet Excitons Arriving at the Surface of a Polymer. Heterogeneous Photosensitization —G. I. Lashkov, L. S. Shatseva and E. N. Bodunov. **34**(1), 57–60 (Jan. 1973); CPM-7308D0081

Shchednova, A. K.—Stimulated Raman scattering of phase-modulated light pulses —A. P. Sukhorukov and A. K. Shchednova. **34**(2), 198–200 (Feb. 1973); CPM-7310E0160

Shchednova, A. K.—Effect of simultaneous spatial and temporoal modulation of a laser wave on parametric amplification —A. P. Sukhorukov and A. K. Shchednova. **35**(5), 537–9 (Nov. 1973); CPM-7403D0077

Shchegolev, S. Yu.—Spectral turbidimetry of concentrated disperse systems —V. I. Klenin, S. Yu. Shchegolev and L. G. Lebedeva. **35** (6), 672–4 (Dec. 1973); CPM-7404E0090

Shchelokov, R. N.—Temperature broadening and shift of phononless lines in the spectra of crystalline uranyl compound with a polymer-type structure —R. N. Shchelokov, G. V. Ellert, V. E. Karasev, Yu. I. Krasilov and G. M. Gaevoi. **35**(5), 570–1 (Nov. 1973); CPM-7403D0110

Shcherba, L. D.—Absorption and Luminescence Spectra of Li Atoms in Noble Gas Matrices —A. A. Belyaeva, Yu. B. Predtechenskii and L. D. Shcherba. **34**(1), 21–4 (Jan. 1973); CPM-7308D0045

Shehpakina, O. A.—Luminescence and photochromy of an inner complex of zinc with salicyal anilide —M. I. Knyazhanskii, P. V. Gilyanovskii, V. A. Kogan, O. A. Osipov, O. A. Shehpakina and V. V. Litvinov. **35**(6), 630–3 (Dec. 1973); CPM-7404E0048

Shekhmametev, R. I.—Effect of Radiation from Radioactive Material on Natural-Quartz Thermoluminescence —R. I. Shekhmametev. **34**(3), 288–90 (Mar. 1973); CPM-7310E0250

Shelaev, A. N.—Some characteristics of a cw solid-state ring laser — L. S. Kornienko, N. V. Kravtsov and A. N. Shelaev. **35**(4), 449 (Oct. 1973); CPM-7402D0191

Shestakov, A. F.—Dispersion interaction of hydrogen atoms in excited states —A. F. Shestakov, S. I. Vetchinkin and S. V. Khristenko. **35**(4), 355–7 (Oct. 1973); CPM-7402D0097

Shevtsov, M. K.—Using a pulsed laser to determine the cross section of excitation-energy transfer by collision in a Cd–He mixture —A. S. Tibilov, M. K. Shevtsov and A. M. Shukhtin. **35**(4), 365–6 (Oct. 1973); CPM-7402D0107

Shigorin, D. N.—Calculation of the frequencies of the in-plane vibrations of nitrobenzene —K. M. Danchinov, E. A. Gastilovich, A. N. Rodionov and D. N. Shigorin. **34**(4), 456–8 (Apr. 1973); CPM-7310E0418

Shigorin, D. N.—Intensity distribution in electronic-vibrational progressions of the 9,10-anthraquinone luminescence spectrum — N. S. Smirnov, E. A. Gastilovich and D. N. Shigorin. **35**(2), 140–2 (Aug. 1973); CPM-7312F0064

Shigorin, I. I.—Allowance for the differences between effective and average fields in the experimental determination of the characteristics of molecular transitions from the vibronic spectra of the anthracene crystal —I. I. Shigorin, V. S. Libov and N. G. Bakhshiev. **35**(2), 134–6 (Aug. 1973); CPM-7312F0058

Shigorin, V. D.—Laser Second Harmonic Generation in Organic Crystals —V. D. Shigorin and G. P. Shipulo. **34**(1), 83–6 (Jan. 1973); CPM-7308D0107

Shilov, V. B.—Spectral–time characteristics of dye–solution lasing in pumping with a series of ultrashort pulses —B. S. Neporent, V. V. Kryukov, G. V. Lukomskii and V. B. Shilov. **35**(3), 309–11 (Sep. 1973); CPM-7312F1585

—Spectral kinetics of the laser action in solutions of various organic substances —B. S. Neporent, V. B. Shilov and G. V. Lukomskii. **35**(3), 312–4 (Sep. 1973); CPM-7312F1588

Shimon, L. L.—Intensity ratios of the head–term components of the diffuse thallium series —L. L. Shimon, E. I. Nepiipov and I. P. Zapesochnyi. **35**(3), 231–2 (Sep. 1973); CPM-7312F1507

Shipulo, G. P.—Laser Second Harmonic Generation in Organic Crystals —V. D. Shigorin and G. P. Shipulo. **34**(1), 83–6 (Jan. 1973); CPM-7308D0107

Shirin, A. V.—Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

Shirokov, A. A.—Anomalous exciton splitting in the vibrational spectrum of a naphthalene crystal in the 3000 cm^{-1} region —V. L. Broude and A. A. Shirokov. **34**(2), 230–1 (Feb. 1973); CPM-7310E0192

Shishlovskii, A. A.—Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

—Optical properties of nickel–chromium alloys in the 250 to 1100 nm spectral region —N. Ya. Gorban, V. S. Stashchuk, P. V. Petrenko and A. A. Shishlovskii. **35**(4), 400–2 (Oct. 1973); CPM-7402D0142

Shklyarevskii, I. N.—Separation of the Contributions of Free and Bound Electrons to the Real and Imaginary Parts of the Dielectric Constant of Gold —I. N. Shklyarevskii and P. L. Pakhomov. **34** (1), 90–1 (Jan. 1973); CPM-7308D0114

—Optical studies of inhomogeneities of metal layers deposited in vacuum —E. Idchak, R. G. Yarovaya, I. N. Shklyarevskii and A. G. Gimaev. **34**(2), 183–5 (Feb. 1973); CPM-7310E0145

—Plasma resonance in granular silver and gold films —I. N. Shklyarevskii, P. L. Pakhomov and T. I. Korneeva. **34**(4), 421–4 (Apr. 1973); CPM-7310E0383

—Optical properties of bismuth thin films —A. I. Usoskin, I. N. Shklyarevskii, A. S. Gerchikov and Yu. S. Verlinskii. **34**(5), 549–51 (May 1973); CPM-7311E0111

Shklyarevskii, I. N.—Effect of absorbed moisture on the position of the passband of narrow–band interference filters —I. N. Shklyarevskii, R. I. Umerov, E. A. Lupashko and V. I. Khramtsova. **35**(2), 206–8 (Aug. 1973); CPM-7312F0130

—Optical properties of special narrow–band interference filters for the infrared spectral region —I. N. Shklyarevskii, R. I. Umerov, M. A. Gisin and E. E. Sitnikov. **35**(4), 447–8 (Oct. 1973); CPM-7402D0189

—Ellipsometry of thin two–layer coatings on metal substrates —A. I. Rybalka and I. N. Shklyarevskii. **35**(6), 681–2 (Dec. 1973); CPM-7404E0099

Shpak, M. P.—Special Features of ir Absorption and Fluorescence of Products of Benzophenone Photochemical Reactions —V. I. Melnik, G. A. Puchkovskaya, N. F. Kharchenko and M. P. Shpak. **34**(1), 54–6 (Jan. 1973); CPM-7308D0078

Shpak, M. T.—Fluorescence of mechanically ground crystalline naphthalene —V. P. Vorobev and M. T. Shpak. **34**(4), 460–1 (Apr. 1973); CPM-7310E0422

Shpak, M. T.—Vibration, luminescence, and absorption spectra of benzophenone and their interpretation —L. M. Babkov, M. A. Kovner, V. I. Melnik, G. A. Puchkovskaya, N. P. Kharchenko and M. T. Shpak. **35**(1), 33–6 (Jul. 1973); CPM-7312F1791

Shpolskii, E. V.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Shraiber, V. M.—Spectra of hydrogen bonded complexes and ion pairs in the far infrared region (70–700 cm^{-1}). Pyridine–acid system —G. S. Denisov, Ya. Starosta and V. M. Shraiber. **35**(3), 262–4 (Sep. 1973); CPM-7312F1538

Shtanchaev, M. I.-A.—Stimulated Raman scattering in gypsum —M. A. Kazhlaev, B. M. Ataev and M. I.-A. Shtanchaev. **34**(6), 661 (Jun. 1973); CPM-7311E0223

Shukhtin, A. M.—Investigation of the Early Stage of Argon Plasma Decay, Part 1 —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(1), 14–6 (Jan. 1973); CPM-7308D0038

—Investigation of the early stage of decay of argon plasma —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(2), 124–6 (Feb. 1973); CPM-7310E0086

Shukhtin, A. M.—Using a pulsed laser to determine the cross section of excitation–energy transfer by collision in a Cd–He mixture —A. S. Tibilov, M. K. Shevtsov and A. M. Shukhtin. **35**(4), 365–6 (Oct. 1973); CPM-7402D0107

—A modification of the Jamin interferometer —Yu. G. Kozlov, G. A. Plekhotkin and A. M. Shukhtin. **35**(4), 453–4 (Oct. 1973); CPM-7402D0195

—Effect of hydrogen on the line luminescence of alkali metals and inert gases in a pulsed discharge —V. G. Mishakov, P. A. Pogorelyi and A. M. Shukhtin. **35**(4), 455–6 (Oct. 1973); CPM-7402D0197

—Rozhdestvenskii interference apparatus with an attachment which includes an image converter —G. A. Plekhotkin and A. M. Shukhtin. **35**(5), 567–8 (Nov. 1973); CPM-7403D0107

Shulman, M. Ya.—Experiments to improve image quality —L. A. Khalfin, T. A. Pavlichuk and M. Ya. Shulman. **35**(4), 443–4 (Oct. 1973); CPM-7402D0185

Shuraleva, E. I.—Luminescence mechanism of pair centers in KI–Tl phosphor —L. P. Smolskaya, I. A. Parfianovich, E. I. Shuraleva and L. V. Morozhnikova. **34**(4), 416–8 (Apr. 1973); CPM-7310E0378

Shuraleva, E. I.—Thermally stimulated luminescence in KI phosphors —L. P. Smolskaya, I. A. Parfianovich and E. I. Shuraleva. **35**(4), 385–7 (Oct. 1973); CPM-7402D0127

—Theoretical and experimental study of localized levels in KCl–Eu^{2+} —I. A. Parfianovich, V. M. Metsik, V. N. Salomatov and E. I. Shuraleva. **35**(5), 509–10 (Nov. 1973); CPM-7403D0049

Sidorenko, V. M.—Influence of the effective light field on the Raman spectra of condensed media. II: A method of determining the correction for the observed Raman spectrum —V. M. Sidorenko, V. S. Libov and N. G. Bakhshiev. **35**(2), 158–61 (Aug. 1973); CPM-7312F0082

Sidorov, A. N.—Resonance Raman scattering by liquid solutions of molecular ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov and A. N. Sidorov. **35**(2), 154–7 (Aug. 1973); CPM-7312F0078

Silenko, A. Ya.—Description of polarized multipole luminescence — K. S. Adzerikho and A. Ya. Silenko. **34**(5), 525–6 (May 1973); CPM-7311E0087

Simkin, Yu. E.—Effect of fiberglass on the frequency–contrast characteristics of optical systems —Ya. D. Dovgii, Ya. M. Bilyi, M. I. Brilinskii, R. G. Gnyp, V. P. Dmytruk and Yu. E. Simkin. **34**(4), 454–5 (Apr. 1973); CPM-7310E0416

Sitnikov, E. E.—Optical properties of special narrow–band interference filters for the infrared spectral region —I. N. Shklyarevskii, R. I. Umerov, M. A. Gisin and E. E. Sitnikov. **35** (4), 447–8 (Oct. 1973); CPM-7402D0189

Sklizkov, G. V.—Observation of satellites to the resonance transitions of H– and He–like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

Skobelev, V. V.—Compton effect in a magnetic field taking into account the anomalous magnetic moment —Yu. M. Loskutov and V. V. Skobelev. **35**(3), 289–90 (Sep. 1973); CPM-7312F1565

Skornyakova, K. P.—Control of optical radiation by means of lead magnoniobate crystals —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov and K. P. Skornyakova. **35**(5), 515–7 (Nov. 1973); CPM-7403D0055

Skorobogatov, B. S.—Temperature shift of the energy levels of the Nd^{3+} ion in yttrium–aluminum–garnet single crystals —E. M. Ostrovskaya, S. A. Sazonova and B. S. Skorobogatov. **34**(2), 178–80 (Feb. 1973); CPM-7310E0140

Skorobogatov, B. S.—Temperature shift of Nd^{3+} energy levels in $CaWO_4$ crystals —V. I. Bonchkovskii, V. A. Kobzar–Zlenko, S. A. Sazonova and B. S. Skorobogatov. **35**(3), 281–2 (Sep. 1973); CPM-7312F1557

Skovorodko, P. A.—Calculation of the Franck–Condon factors for the processes involved in the excitation of the molecular bands of the first negative system of nitrogen and carbon monoxide —V. A. Kosinov and P. A. Skovorodko. **35**(3), 344 (Sep. 1973); CPM-7312F1620

Skrebov, V. N.—Investigation of the Early Stage of Argon Plasma Decay, Part 1 —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(1), 14–6 (Jan. 1973); CPM-7308D0038

—Investigation of the early stage of decay of argon plasma —M. N. Polyanskii, V. N. Skrebov and A. M. Shukhtin. **34**(2), 124–6 (Feb. 1973); CPM-7310E0086

Skripov, V. P.—Approximate Calculation of Multiple Scattering in Cylindrical Cells —Yu. D. Kolpakov, V. S. Vitkalov and V. P. Skripov. **34**(3), 345–6 (Mar. 1973); CPM-7310E0307

Skrotskii, G. V.—Properties of nonlinear recording of focused–image holograms —I. S. Klimenko, E. G. Matinyan and G. V. Skrotskii. **34**(4), 474–5 (Apr. 1973); CPM-7310E0436

—Phase relations in light scattered by density fluctuations in pure liquids —A. N. Makhlin and G. V. Skrotskii. **34**(5), 575–6 (May 1973); CPM-7311E0137

Skrotskii, G. V.—Fluctuations of equilibrium electromagnetic radiation —A. A. Kolokolov and G. V. Skrotskii. **35**(3), 229–30 (Sep. 1973); CPM-7312F1505

—Self–constriction of spherically symmetric pulses in a nonlinear medium —A. A. Kolokolov and G. V. Skrotskii. **35**(5), 520–1 (Nov. 1973); CPM-7403D0060

Skvortsov, A. P.—Quadratic pseudo–Stark splitting of a phononless line of N_1 color centers in lithium fluoride —A. A. Kaplyanskii, V. N. Medvedev and A. P. Skvortsov. **35**(4), 382–4 (Oct. 1973); CPM-7402D0124

Slobodskaya, P. V.—Determination of relaxation time for Co_2 bending vibration by spectrophone —P. V. Slobodskaya. **34**(4), 391–4 (Apr. 1973); CPM-7310E0353

Slyusarev, S. G.—Statistical theory of induced Mandelstam–Brillouin scattering —V. F. Boitsov and S. G. Slyusarev. **35**(1), 101–3 (Jul. 1973); CPM-7312F1859

—Some properties of coherent optical fields —V. F. Boitsov, Yu. E. Murakhver and S. G. Slyusarev. **35**(4), 411–4 (Oct. 1973); CPM-7402D0153

Smirnov, A. G.—Holographic Method for Measuring Spatial Coherence Functions —D. I. Staselko, V. B. Voronin and A. G. Smirnov. **34**(3), 320–3 (Mar. 1973); CPM-7310E0282

Smirnov, A. Ya.—Generation of two frequencies in a gas laser with nonlinear selective losses —A. P. Voitovich and A. Ya. Smirnov. **34**(5), 533–6 (May 1973); CPM-7311E0095

Smirnov, E. P.—Application of the modified adiabatic approximation to the helium atom —T. K. Rebane and E. P. Smirnov. **34**(6), 601–4 (Jun. 1973); CPM-7311E0163

Smirnov, N. S.—Intensity distribution in electronic–vibrational progressions of the 9,10–anthraquinone luminescence spectrum —N. S. Smirnov, E. A. Gastilovich and D. N. Shigorin. **35**(2), 140–2 (Aug. 1973); CPM-7312F0064

Smirnov, V. B.—Quenching collisions in helium observed during the decay of the n^1S_0 and n^3S_1 states —G. S. Kvater, O. V. Oginets, V. B. Smirnov and S. A. Bagaev. **35**(2), 226–7 (Aug. 1973); CPM-7312F0150

Smirnov, V. S.—Continuous Frequency Tuning of a Laser of Mixed Dye Solution —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **34**(1), 81–2 (Jan. 1973); CPM-7308D0105

Smirnov, V. S.—Experimental study of the lasing characteristics of solutions of phthalimide substitutes with lamp pumping —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(5), 553–4 (Nov. 1973); CPM-7403D0093

—Lasing of pyrilium perchlorate solutions by lamp pumping[1)] —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(6), 675–6 (Dec. 1973); CPM-7404E0093

Smirnov, Yu. M.—Measurements of Cross Section for Excitation of Xenon Lines by Electron Impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **34**(1), 3–5 (Jan. 1973); CPM-7308D0027

—Transition probabilities for some Kr II and Xe II lines —V. P. Podbiralina, Yu. M. Smirnov and N. V. Stegnova. **34**(4), 467–8 (Apr. 1973); CPM-7310E0429

Smirnov, Yu. M.—Excitation of Ar III by electron impact —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(2), 222–3 (Aug. 1973); CPM-7312F0146

—Optical cross sections for Ar I and Kr I —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(3), 343 (Sep. 1973); CPM-7312F1619

—Measurement of electron–impact excitation cross sections for Kr–11 and Kr–111 lines —G. S. Rostovikova, V. P. Samoilov and Yu. M. Smirnov. **35**(6), 600–2 (Dec. 1973); CPM-7404E0018

Smolskaya, L. P.—Luminescence mechanism of pair centers in KI–Tl phosphor —L. P. Smolskaya, I. A. Parfianovich, E. I. Shuraleva and L. V. Morozhnikova. **34**(4), 416–8 (Apr. 1973); CPM-7310E0378

Smolskaya, L. P.—Thermally stimulated luminescence in KI phosphors —L. P. Smolskaya, I. A. Parfianovich and E. I. Shuraleva. **35**(4), 385–7 (Oct. 1973); CPM-7402D0127

Smolskaya, T. S.—Determination of the oxygen quenching constant for the triplet state of rhodamine 6G using lasing characteristics —T. S. Smolskaya, A. N. Rubinov and M. M. Asimov. **34**(2), 231–3 (Feb. 1973); CPM-7310E0193

Smolyakov, S. S.—Excitation of the $B^3\Pi_g$ State of Molecular Nitrogen in a Glow Discharge —O. V. Ravodina, T. N. Popova, A. A. Eliseev and S. S. Smolyakov. **34**(3), 243–5 (Mar. 1973); CPM-7310E0205

Smolyanskii, A. L.—Identification of the $\nu P{=}O$ and $\nu C{-}O$ Bands in the Infrared Spectra of Complexes of Trimethylphosphine Oxide with Carboxylic Acids —G. V. Gusakova, E. V. Ryltsev and A. L. Smolyanskii. **34**(3), 262–4 (Mar. 1973); CPM-7310E0224

Smolyanskii, P. L.—Polarized Luminescence of CaF_2–Yb^{2+} Crystals —A. A. Kaplyanskii and P. L. Smolyanskii. **34**(3), 361–2 (Mar. 1973); CPM-7310E0323

Sobolev, G. A.—Properties of thin–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **34**(6), 695–7 (Jun. 1973); CPM-7311E0257

Sobolev, G. A.—Study of the properties of thick–film holograms on chalcogenide glasses —V. I. Mandrosov, E. I. Pik and G. A. Sobolev. **35**(1), 75–6 (Jul. 1973); CPM-7312F1833

Sokolov, A. P.—Optical pumping of hyperfine sublevels of the $4^2S_{1/2}$ state of potassium —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **34**(6), 707–8 (Jun. 1973); CPM-7311E0269

Sokolov, A. P.—Frequency shifts in a hyperfine transition in potassium produced by various buffer gases —E. B. Aleksandrov, A. B. Mamyrin and A. P. Sokolov. **35**(1), 93–4 (Jul. 1973); CPM-7312F1851

Sokolov, V. K.—Ellipsometry based on a convergent light beam —K. K. Svitashev, A. I. Semenenko, L. V. Semenenko and V. K. Sokolov. **34**(5), 542–4 (May 1973); CPM-7311E0104

Sokolovskii, R. I.—Theory of image conversion in nonlinear optical systems —A. V. Gainer, G. V. Krivoshchekov and R. I. Sokolovskii. **34**(2), 225–6 (Feb. 1973); CPM-7310E0187

Sokolovskii, R. I.—Statistical phenomena in many–photon processes —F. A. Vorobev and R. I. Sokolovskii. **35**(4), 452–3 (Oct. 1973); CPM-7402D0194

—Nonlinear interaction of intersecting light beams in a gas —R. I. Sokolovskii. **35**(5), 563–4 (Nov. 1973); CPM-7403D0103

Soldatov, A. N.—Excitation of Neon in a Glow Discharge —A. N. Soldatov, G. S. Evtushenko and I. I. Muravev. **34**(1), 6–8 (Jan. 1973); CPM-7308D0030

Solomonik, V. G.—Change in the Configuration of Molecules on Isolation in a Matrix —K. S. Krasnov and V. G. Solomonik. **34**(3), 357–8 (Mar. 1973); CPM-7310E0319

Solovev, K. N.—Triplet–triplet absorption and phosphorescence of metal–porphyrin complexes in liquid solutions —M. P. Tsvirko, V. V. Sapunov and K. N. Solovev. **34**(6), 635–8 (Jun. 1973); CPM-7311E0197

Solovev, V. A.—Isotropic and Anisotropic Light Scattering in Relaxating Fluids —V. P. Romanov, V. A. Solovev and L. S. Filatova. **34**(3), 309–15 (Mar. 1973); CPM-7310E0271

Solovyov, L. E.—Natural and artificial phenomena of pseudocrossing of dispersion curves by the Rozhdestvenskii hook method —A. Kh. Zilbershtein and L. E. Solovyov. **35**(3), 274–6 (Sep. 1973); CPM-7312F1550

Solyanikova, V. A.—Use of nonself-reversed line profiles for plasma diagnostics in the burner of a metal–haloid lamp —L. A. Kirpichnikova, S. I. Krylova, L. A. Luizova, I. M. Nekrylova, V. A. Solyanikova and A. D. Khakhaev. **35**(5), 470–1 (Nov. 1973); CPM-7403D0010

Soroka, V. V.—Kinetics of radiation coloring of crystalline quartz — V. V. Soroka and N. A. Pravdin. **34**(6), 671–2 (Jun. 1973); CPM-7311E0233

Sorokin, O. M.—Optical properties of SiO_2 in the spectral region 5–40 eV —O. M. Sorokin, V. A. Blank and G. A. Lebedeva. **35**(3), 291–4 (Sep. 1973); CPM-7312F1567

Sosinskii, M. L.—Collisions of excited atoms under the sensitized fluorescence of Hg–Zn and Hg–Cd —E. N. Morozov and M. L. Sosinskii. **35**(5), 463–6 (Nov. 1973); CPM-7403D0003

Soskin, M. S.—Enhancement of axial brightness of lases beams by holographic phase correction —M. D. Bondarenko and M. S. Soskin. **35**(6), 665–7 (Dec. 1973); CPM-7404E0083

Sotskii, B. A.—Degree of coherence of scattered light —B. A. Sotskii and V. Ya. Anisimov. **35**(3), 341 (Sep. 1973); CPM-7312F1617

Starobogatov, I. O.—Studies on the character of broadening of the energy states of polymethine–dye solutions —A. M. Bonch–Bruevich, T. K. Razumova and I. O. Starobogatov. **35**(4), 374–6 (Oct. 1973); CPM-7402D0116

Starodub, V. P.—Electron–impact excitation of alkaline earth atoms. 1. magnesium —I. S. Aleksakhin, I. P. Zapesochnyi, I. I. Garga and V. P. Starodub. **34**(6), 611–5 (Jun. 1973); CPM-7311E0173

Starodub, V. P.—Electron–impact excitation of alkaline earth atoms. Part 2: Strontium singlets —V. P. Starodub, I. S. Aleksakhin, I. I. Garga and I. P. Zapesochnyi. **35**(6), 603–6 (Dec. 1973); CPM-7404E0021

Starosta, Ya.—Spectra of hydrogen bonded complexes and ion pairs in the far infrared region (70–700 cm^{-1}). Pyridine–acid system — G. S. Denisov, Ya. Starosta and V. M. Shraiber. **35**(3), 262–4 (Sep. 1973); CPM-7312F1538

Starostin, N. V.—Calculation of the states of a Ce^{3+} ion in fluorite–type crystals —N. V. Starostin, P. F. Gruzdev, V. A. Ganin and T. E. Chebotareva. **35**(3), 277–80 (Sep. 1973); CPM-7312F1553

Startsev, G. P.—Absorption spectrum of lead vapor in ultraviolet and Schumann regions —M. G. Kozlov, S. A. Mileshina and G. P. Startsev. **35**(1), 89–90 (Jul. 1973); CPM-7312F1847

Startseva, G. P.—Mechanism of recombination in helium —N. V. Afanasev, G. N. Gerasimov and G. P. Startseva. **34**(4), 382–4 (Apr. 1973); CPM-7310E0344

Staselko, D. I.—Holographic recording of three–dimensional ensembles of fast–moving particles —D. I. Staselko and V. A. Kosnikovskii. **34**(2), 206–10 (Feb. 1973); CPM-7310E0168

—Holographic Method for Measuring Spatial Coherence Functions — D. I. Staselko, V. B. Voronin and A. G. Smirnov. **34**(3), 320–3 (Mar. 1973); CPM-7310E0282

Stashchuk, V. S.—Optical properties of nickel–iron alloys in the region of interband transitions —N. Ya. Gorban, V. S. Stashchuk, A. V. Shirin and A. A. Shishlovskii. **35**(3), 295–8 (Sep. 1973); CPM-7312F1571

—Optical properties of nickel–chromium alloys in the 250 to 1100 nm spectral region —N. Ya. Gorban, V. S. Stashchuk, P. V. Petrenko and A. A. Shishlovskii. **35**(4), 400–2 (Oct. 1973); CPM-7402D0142

Steblin, V. I.—Special features of low–temperature luminescence of diphenyl–polyene solutions under electric excitation —V. I. Steblin. **34**(4), 477–8 (Apr. 1973); CPM-7310E0439

Stegnova, N. V.—Transition probabilities for some Kr II and Xe II lines —V. P. Podbiralina, Yu. M. Smirnov and N. V. Stegnova. **34** (4), 467–8 (Apr. 1973); CPM-7310E0429

Sterin, Kh. E.—High–speed recording of Raman spectra of liquids and gases —V. B. Podobedov, A. M. Pyndyk and Kh. E. Sterin. **34** (4), 478–9 (Apr. 1973); CPM-7310E0440

Stetsenko, T. S.—Energy spectrum of Dy^{3+} ion in single crystals of the $KY(MoO_4)_2$–$KDy(MoO_4)_2$ system —T. S. Stetsenko, A. M. Pshisukha, S. D. Elchaninova and A. I. Zvyagin. **34**(2), 227–8 (Feb. 1973); CPM-7310E0189

Stolov, A. L.—Effect of matrix disorder on anti–Stokes luminescence of Er^{3+} —M. S. Orlov, I. G. Saitkulov and A. L. Stolov. **35**(5), 568–70 (Nov. 1973); CPM-7403D0108

Stolpovskii, A. A.—Measurement of Linear Velocity of a Body by the Optical Doppler Effect —Yu. N. Dubnishchev, A. I. Lokhmatov, L. N. Koshcheev, A. A. Stolpovskii and E. N. Utkin. **34**(3), 335 (Mar. 1973); CPM-7310E0297

Storchai, N. T.—Anharmonic potential function for a water molecule —V. P. Morozov and N. T. Storchai. **34**(5), 508–9 (May 1973); CPM-7311E0070

Strezhnev, S. A.—Concave diffraction gratings on aspherical surfaces with one plane of symmetry —S. A. Strezhnev and A. I. Andreeva. **35**(5), 572–4 (Nov. 1973); CPM-7403D0112

Strizhevskii, V. L.—Dichroism in stimulated–Raman–scattering spectra in crystals —A. M. Panarin and V. L. Strizhevskii. **34**(6), 659–60 (Jun. 1973); CPM-7311E0221

Strizhevskii, V. L.—Theory of induced Raman scattering in absorbing media —V. V. Obukhovskii and V. L. Strizhevskii. **35**(1), 27–30 (Jul. 1973); CPM-7312F1785

Stroganov, V. I.—Some special features of vector synchronous interaction of light waves in anistropic crystals —G. V. Krivoshchekov, V. I. Stroganov, V. I. Samarin and V. M. Tarasov. **34**(2), 196–7 (Feb. 1973); CPM-7310E0158

Strukov, M. B.—Spectral–luminescent properties of azomethines in the quinoid form. I. Anils 3–oxybenzofuran–2–aldehyde —M. B. Strukov, M. I. Knyazhanskii, V. A. Bren, V. I. Minkin and Zh. V. Bren. **35**(6), 610–2 (Dec. 1973); CPM-7404E0028

Suchinskii, M. M.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Sugakov, V. I.—Localized biexcitons in molecular crystals —A. I. Onipko and V. I. Sugakov. **34**(6), 655–8 (Jun. 1973); CPM-7311E0217

Sugakov, V. I.—Interaction of excitons and exciton annihilation —A. I. Onipko and V. I. Sugakov. **35**(1), 108–9 (Jul. 1973); CPM-7312F1866

Sukhanov, V. I.—Recording volume holograms on photochromic glass using the optical bleaching process. Part 1 —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(2), 201–2 (Feb. 1973); CPM-7310E0163

—Recording Volume Holograms on Photochromic Glass Using the Optical Bleaching Process —Yu. V. Ashcheulov and V. I. Sukhanov. **34**(3), 324–6 (Mar. 1973); CPM-7310E0286

Sukhorukov, A. P.—Stimulated Raman scattering of phase–modulated light pulses —A. P. Sukhorukov and A. K. Shchednova. **34**(2), 198–200 (Feb. 1973); CPM-7310E0160

Sukhorukov, A. P.—Effect of simultaneous spatial and temporoal modulation of a laser wave on parametric amplification —A. P. Sukhorukov and A. K. Shchednova. **35**(5), 537–9 (Nov. 1973); CPM-7403D0077

Sukhov, D. A.—Absorption and Fluorescence Spectra of Solutions of Anthracene and Its Methyl Derivatives in a Polymethylmethacrylate Matrix —D. A. Sukhov and F. I. Vilesov. **34**(1), 112–4 (Jan. 1973); CPM-7308D0136

Sverdlov, L. M.—Special features in the calculation of bond dipole moments in planar and linear polyatomic molecules using data from vibrational infrared spectra —L. M. Sverdlov. **35**(1), 37–9 (Jul. 1973); CPM-7312F1795

Sveshnikov, E. B.—Nonradiative deactivation of Cr^{3+} and Co^{3+} ions in frozen solutions —E. B. Sveshnikov and I. B. Neporent. **35**(3), 283–5 (Sep. 1973); CPM-7312F1559

Sveshnikova, E. B.—Energy Transfer from Triplet States of Aromatic Ketones to Molecular Oxygen in Liquid Solutions —V. F. Morina and E. B. Sveshnikova. **34**(3), 359–60 (Mar. 1973); CPM-7310E0321

Sviridov, D. T.—F–f transitions in the spectra of $KMgF_3$ and $NaMgF_3$ crystals activated with Eu^{2+} —S. N. Bodrug, E. G. Valyashko, V. N. Mednikova, D. T. Sviridov and R. K. Sviridov. **34**(2), 176–7 (Feb. 1973); CPM-7310E0138

Sviridov, D. T.—Optical absorption spectra of excited Cr^{3+} ions in magnesium spinel at room and liquid nitrogen temperatures —D. T. Sviridov, B. K. Sevastyanov, V. P. Orekhova, R. K. Sviridova and T. F. Veremeichik. **35**(1), 59–61 (Jul. 1973); CPM-7312F1817

Sviridov, M. V.—Measurement of the saturation parameter of a neon–helium mixture at the 3.39–μ wavelength —I. P. Mazanko, N.–D. D. Ogurok and M. V. Sviridov. **35**(3), 327–8 (Sep. 1973); CPM-7312F1603

Sviridov, R. K.—F-f transitions in the spectra of $KMgF_3$ and $NaMgF_3$ crystals activated with Eu^{2+} —S. N. Bodrug, E. G. Valyashko, V. N. Mednikova, D. T. Sviridov and R. K. Sviridov. **34**(2), 176–7 (Feb. 1973); CPM-7310E0138

Sviridova, R. K.—Optical absorption spectra of excited Cr^{3+} ions in magnesium spinel at room and liquid nitrogen temperatures —D. T. Sviridov, B. K. Sevastyanov, V. P. Orekhova, R. K. Sviridova and T. F. Veremeichik. **35**(1), 59–61 (Jul. 1973); CPM-7312F1817

Svishchev, G. M.—Image contrast in a microscope with synchronous scanning of the object by point or raster field diaphragms —G. M. Svishchev. **34**(2), 221–4 (Feb. 1973); CPM-7310E0183

Svitashev, K. K.—Ellipsometry based on a convergent light beam — K. K. Svitashev, A. I. Semenenko, L. V. Semenenko and V. K. Sokolov. **34**(5), 542–4 (May 1973); CPM-7311E0104

Syrnikov, P. P.—Energy spectra of the layered antiferromagnets Li_2NiF_4, K_2NiF_4 and Rb_2NiF_4 —R. V. Pisarev, A. A. Karamyan, N. N. Nesterova and P. P. Syrnikov. **35**(1), 88–9 (Jul. 1973); CPM-7312F1846

T

Tachin, V. S.—Anomalous temperature dependence of the luminescence decay time of rare-earth ions —V. L. Ermolaev and V. S. Tachin. **35**(5), 566–7 (Nov. 1973); CPM-7403D0106

Tambovtsev, B. Z.—Elimination of apparatus distortion of a spectral line profile by the statistical regularization method —N. G. Preobrazhenskii and B. Z. Tambovtsev. **35**(5), 547–50 (Nov. 1973); CPM-7403D0087

Tarasov, V. M.—Some special features of vector synchronous interaction of light waves in anistropic crystals —G. V. Krivoshchekov, V. I. Stroganov, V. I. Samarin and V. M. Tarasov. **34**(2), 196–7 (Feb. 1973); CPM-7310E0158

Tarasov, Yu. A.—Low-frequency modulation of solid-state laser emission in axial mode-locking conditions —T. N. Zubarev, V. M. Martynov and Yu. A. Tarasov. **34**(4), 433–4 (Apr. 1973); CPM-7310E0395

Taroyan, A. S.—Excitation of helium in a hollow-cathode discharge. Part 1 —Yu. M. Kagan and A. S. Taroyan. **35**(2), 120–3 (Aug. 1973); CPM-7312F0044

—Excitation of a He-Ne mixture in a hollow-cathode discharge. II — Yu. M. Kagan and A. S. Taroyan. **35**(3), 245–7 (Sep. 1973); CPM-7312F1521

—Excitation of He-Ne-H_2 mixture in a hollow-cathode discharge. III. —Yu. M. Kagan and A. S. Taroyan. **35**(3), 334–5 (Sep. 1973); CPM-7312F1610

Telegin, G. G.—Statistical phenomena in the transient of a He-Ne laser with a given initial photon distribution —S. V. Bazhenov, V. E. Brazovskii and G. G. Telegin. **35**(1), 62–6 (Jul. 1973); CPM-7312F1820

Teplyakov, P. A.—Phosphorescence of aromatic compounds at 77 K, 20 K, and 4 K. Quasilinear spectra of diphenylene oxide at 4 K — P. A. Teplyakov, V. P. Grosul and Yu. R. Redkin. **34**(6), 662–4 (Jun. 1973); CPM-7311E0224

Terekhov, A. A.—Vibration and Luminescence Spectra, Calculation of Frequencies and Shapes of Vibrations and Interpretation of Vibrational Spectra and Vibrational Structure of Coronene Luminescence Spectra —L. M. Babkov, V. I. Glyadkovskii, N. I. Davydova, V. A. Karpova, L. A. Klimova, M. A. Kovner, M. M. Suchinskii, A. A. Terekhov and E. V. Shpolskii. **34**(1), 38–40 (Jan. 1973); CPM-7308D0062

Terzeman, V. F.—Effect of x-ray irradiation of cells on nuclear relaxation of optically oriented Hg^{199} and Hg^{201} atoms —A. N. Kuznetsov, I. E. Grinko and V. F. Terzeman. **35**(3), 238–9 (Sep. 1973); CPM-7312F1514

Tibilov, A. S.—Using a pulsed laser to determine the cross section of excitation-energy transfer by collision in a Cd-He mixture —A. S. Tibilov, M. K. Shevtsov and A. M. Shukhtin. **35**(4), 365–6 (Oct. 1973); CPM-7402D0107

Timashev, S. F.—Variation of luminescence band shape in a high electric field —S. F. Timashev. **35**(3), 339–40 (Sep. 1973); CPM-7312F1615

Timonin, S. P.—Absolute intensities of the lines in the Raman spectra of monohalogen-substituted benzenes in the liquid and gasesous states —G. A. Vorobeva and S. P. Timonin. **35**(6), 619–21 (Dec. 1973); CPM-7404E0037

Timoshinin, V. S.—Calculation of the Coriolis Coupling Constants of XH(Hal)$_3$ Molecules (X=C, Si) —V. S. Timoshinin, Yu. A. Aleshonkova and I. N. Godnev. **34**(1), 115–6 (Jan. 1973); CPM-7308D0139

Titov, E. V.—Empirical calculation of the intensities of the NH valence vibrations of the fragment -NH-NH_3 —S. I. Chekushin, E. V. Titov and V. I. Rybachenko. **35**(5), 576 (Nov. 1973); CPM-7403D0116

Tkachuk, A. M.—Temperature Variations of the Electronic-Vibrational Spectrum of $LaAlO_3$-Cr^{3+} Crystals —A. M. Tkachuk and A. A. Fedorov. **34**(1), 61–2 (Jan. 1973); CPM-7308D0085

Tkhek-de, Im—Some anomalies in the absorption of a light wave by a medium in a magnetic field —Im Tkhek-de, E. G. Saprykin and A. M. Shalagin. **35**(2), 118–9 (Aug. 1973); CPM-7312F0042

Todorov, G.—Longitudinal alignment of the lasing levels of a helium-neon laser —V. A. Polishchuk, G. Todorov, K. Khartung and M. P. Chaika. **34**(6), 709–11 (Jun. 1973); CPM-7311E0271

Tolkachev, V. A.—Spectral dependence of the lifetime of the excited state of vapors of complex molecules —L. G. Pikulik, V. A. Tolkachev and V. A. Yakovenko. **34**(2), 129–32 (Feb. 1973); CPM-7310E0091

Tolmachev, V. I.—Dependence of the centrifugal constants on the paremeters of a unitary transformation —V. I. Tolmachev. **35**(6), 684–5 (Dec. 1973); CPM-7404E0102

Tolstoi, M. N.—Characteristics of energy transfer between rare earth ions in sodium borosilicate glasses during microlayering —G. V. Obraztsov, A. L. Reishakhrit and M. N. Tolstoi. **34**(4), 463–4 (Apr. 1973); CPM-7310E0425

—Distribution of short-lived color centers over a section of laser neodymium-glass rod —L. B. Glebov and M. N. Tolstoi. **34**(5), 572–3 (May 1973); CPM-7311E0134

Tolstoi, N. A.—UV Luminescence and Nonlinear Quenching in Ruby —I. Ya. Gerlovin and N. A. Tolstoi. **34**(1), 69–71 (Jan. 1973); CPM-7308D0093

Tolstykh, T. S.—Optical constants of Fe_2O_3 in the infrared range of the spectrum —S. I. Popova, T. S. Tolstykh and L. S. Ivlev. **35**(5), 551 (Nov. 1973); CPM-7403D0091

Tomin, V. I.—Effect of quenchers on fluorescence spectra of polar solutions of dyes —V. I. Tomin, A. N. Rubinov and V. F. Voronin. **34**(6), 643–5 (Jun. 1973); CPM-7311E0205

Tomin, V. I.—Shift in the flourescence spectrum of molecules in a nonresonant-laser field —A. N. Rubinov, V. I. Tomin and V. A. Zhivnov. **35**(4), 451–2 (Oct. 1973); CPM-7402D0193

Toporets, A. S.—Light transmission through a rough surface. Part 2 —A. S. Toporets. **34**(5), 559–61 (May 1973); CPM-7311E0121

Troitskaya, V. S.—Microwave spectrum of isotope-substituted pyrazole molecules —R. S. Nasibullin, R. G. Latypova, V. S. Troitskaya, V. G. Vinokurov and N. M. Pozdeev. **35**(1), 52–3 (Jul. 1973); CPM-7312F1810

Tronko, V. D.—Transmission of coherent radiation through a birefringent optically active medium in an arbitrary direction. Jones matrices —V. D. Tronko and G. E. Dovgalenko. **34**(6), 673–6 (Jun. 1973); CPM-7311E0235

Trostentsova, G. E.—Manifestation of weak intermolecular interactions in the vibrational spectra of solutions of polar substances in nonpolar solvents —A. V. Sechkarev and G. E. Trostentsova. **34**(4), 407–11 (Apr. 1973); CPM-7310E0369

Tsarkov, V. A.—Measurement of gain distribution in the tube of a helium-neon laser (λ=0.63 μm) under high-frequency excitation —V. A. Tsarkov and M. I. Molchanov. **35**(2), 191 (Aug. 1973); CPM-7312F0115

Tsenter, M. Ya.—Resonance Spontaneous Raman Scattering Spectra of Cryptocyanine in the Crystalline and Adsorbed State —M. Ya. Tsenter, Ya. S. Bobovich and N. M. Belyaevskaya. **34**(1), 44–5 (Jan. 1973); CPM-7308D0068

Tsikora, I. L.—Spectroscopic Study of Vibrational-Energy Scattering in I_2 Molecules Excited by a He-Ne Laser —E. D. Bugrim, S. N. Makrenko and I. L. Tsikora. **34**(1), 35–7 (Jan. 1973); CPM-7308D0059

Tsirk, A. A.—Luminescence Centers in KBr-TlBr Single Crystals with TlBr Concentrations up to 20 mol.% —R. I. Gindina, A. A. Elango, A. A. Khaav, A. A. Maaroos and A. A. Tsirk. **34**(1), 63–6 (Jan. 1973); CPM-7308D0087

Tsoi, V. I.—Optimum parameters of a Fabry-Perot interferometer in studies of the Voigt contour using Fourier interferogram coefficients —A. G. Velichko, M. L. Kats and V. I. Tsoi. **35**(4), 440–2 (Oct. 1973); CPM-7402D0182

Tsvetkov, V. N.—Anisotropy of the molar refraction of liquid crystalline p, p'-dialkoxyazoxybenzenes —V. N. Tsvetkov, E. I. Ryumtsev, I. P. Kolomiets, A. P. Kovshik and N. L. Gantseva. **35**(5), 511–2 (Nov. 1973); CPM-7403D0051

Tsvirko, M. P.—Triplet–triplet absorption and phosphorescence of metal–porphyrin complexes in liquid solutions —M. P. Tsvirko, V. V. Sapunov and K. N. Solovev. **34**(6), 635–8 (Jun. 1973); CPM-7311E0197

Tsyganov, N. L.—Analysis of the scattering indicatrix near the critical point —E. L. Lakoza, N. L. Tsyganov and A. V. Chalyi. **35** (3), 299–301 (Sep. 1973); CPM-7312F1575

Tsygir, O. D.—Effective cross sections for excitation of spectral lines OI due to collisions of electrons with oxygen atoms and molecules —N. P. Penkin and O. D. Tsygir. **35**(3), 348–9 (Sep. 1973); CPM-7312F1624

Tsymbal, I. F.—Splitting of the ν (C≡N) band of acetonitrile on intermolecular interaction with antimony trichloride in solution — Yu. P. Egorov, E. V. Ryltsev and I. F. Tsymbal. **35**(2), 165–6 (Aug. 1973); CPM-7312F0089

Tuchin, V. V.—Some characteristics of frequency modulation of He–Ne laser emission (λ=6328 Å) —V. V. Tuchin. **35**(4), 432–3 (Oct. 1973); CPM-7402D0174

Turkevich, V. V.—Infrared Reflection Spectra of Seignette–Salt Single Crystals —I. F. Viblyi, N. A. Romanyuk and V. V. Turkevich. **34** (3), 298–301 (Mar. 1973); CPM-7310E0260

Turkin, A. A.—Measurement of the natural line width of a traveling-wave He–Ne laser in the 0.63-μ region —V. A. Zborovskii, M. I. Molchanov, A. A. Turkin and N. G. Yaroshenko. **34**(6), 704–5 (Jun. 1973); CPM-7311E0266

Tyulin, V. I.—Raman spectrum of liquid glyoxal, $C_2O_2H_2$ —Le Khyu Kho and V. I. Tyulin. **35**(4), 445–7 (Oct. 1973); CPM-7402D0187

—Calculation of the reduced moments of inertia for internal rotation in symmetrical molecules —L. N. Margolin, Yu. A. Pentin and V. I. Tyulin. **35**(5), 479–81 (Nov. 1973); CPM-7403D0019

Tyuterev, Vl. G.—Calculation of molecular vibrational–rotational energies by the contact transformation method in the secondary–quantization representation. I: Diatomic molecules — Yu. S. Makushkin and Vl. G. Tyuterev. **35**(3), 258–61 (Sep. 1973); CPM-7312F1534

U

Umerov, R. I.—Effect of absorbed moisture on the position of the passband of narrow–band interference filters —I. N. Shklyarevskii, R. I. Umerov, E. A. Lupashko and V. I. Khramtsova. **35**(2), 206–8 (Aug. 1973); CPM-7312F0130

—Optical properties of special narrow–band interference filters for the infrared spectral region —I. N. Shklyarevskii, R. I. Umerov, M. A. Gisin and E. E. Sitnikov. **35**(4), 447–8 (Oct. 1973); CPM-7402D0189

Umirzakov, B.—Investigation of certain properties of substituted chalcones and their vinylogs in the electronically excited state — A. N. Nikitina, G. M. Fedyunina, B. Umirzakov, L. A. Yanovskaya and V. F. Kucherov. **34**(2), 163–5 (Feb. 1973); CPM-7310E0125

Umreiko, D. S.—Mirror symmetry in spectra and properties of excited states of uranyl complexes —I. M. Kopashova, G. N. Larkin and D. S. Umreiko. **35**(2), 143–6 (Aug. 1973); CPM-7312F0067

Usoskin, A. I.—Optical properties of bismuth thin films —A. I. Usoskin, I. N. Shklyarevskii, A. S. Gerchikov and Yu. S. Verlinskii. **34**(5), 549–51 (May 1973); CPM-7311E0111

Ustyugov, V. I.—Special Features of Neodymium Glass Generation at a Wavelength of 0.92 μm —O. D. Gavrilov, A. A. Mak, D. S. Prilezhaev, V. I. Ustyugov and V. A. Fromzel. **34**(1), 77–80 (Jan. 1973); CPM-7308D0101

Ustyugov, V. I.—Gain of a laser amplifier in regenerative and super–regenerative modes —A. A. Mak, V. I. Ustyugov and V. A. Fromzel. **35**(5), 528–31 (Nov. 1973); CPM-7403D0068

Utkin, E. N.—Measurement of Linear Velocity of a Body by the Optical Doppler Effect —Yu. N. Dubnishchev, A. I. Lokhmatov, L. N. Koshcheev, A. A. Stolpovskii and E. N. Utkin. **34**(3), 335 (Mar. 1973); CPM-7310E0297

Utkin, E. N.—Reduction of additive–noise level in the output signal of a laser velocity meter —Yu. G. Vasilenko, Yu. N. Dubnishchev and E. N. Utkin. **35**(2), 212–3 (Aug. 1973); CPM-7312F0136

V

Vainshtein, L. A.—Observation of satellites to the resonance transitions of H– and He–like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

Valiev, K. A.—Theory of Rayleigh Light Scattering —K. A. Valiev and E. N. Ivanov. **34**(1), 87–9 (Jan. 1973); CPM-7308D0111

Valiev, K. A.—Contribution to the theory of light scattering by diatomic molecules —E. N. Ivanov and K. A. Valiev. **35**(2), 169–71 (Aug. 1973); CPM-7312F0093

Valyashko, E. G.—F–f transitions in the spectra of $KMgF_3$ and $NaMgF_3$ crystals activated with Eu^{2+} —S. N. Bodrug, E. G. Valyashko, V. N. Mednikova, D. T. Sviridov and R. K. Sviridov. **34**(2), 176–7 (Feb. 1973); CPM-7310E0138

Vandyukov, E. A.—Fine structure of the fluorescence spectrum of anthracene vapors under anti–Stokes excitation —S. O. Mirumyants, E. A. Vandyukov and Yu. S. Demchuk. **34**(5), 596–7 (May 1973); CPM-7311E0158

Vanyushina, N. G.—Calculation of optical absorption spectra for paramagnetic ions —N. G. Vanyushina, V. V. Ilyushchenko, A. N. Men and Yu. N. Rezchikov. **35**(6), 638–40 (Dec. 1973); CPM-7404E0056

Vashchenko, V. I.—Direct transitions in BiI_3 single crystals in a magnetic field —V. N. Kolosyuk and V. I. Vashchenko. **34**(2), 236–7 (Feb. 1973); CPM-7310E0198

Vasilenko, Yu. G.—Reduction of additive–noise level in the output signal of a laser velocity meter —Yu. G. Vasilenko, Yu. N. Dubnishchev and E. N. Utkin. **35**(2), 212–3 (Aug. 1973); CPM-7312F0136

Vasilevskii, K. P.—Intensity and half–width of CO_2 lines in the 14° 1–00° O band —V. A. Boldyrev and K. P. Vasilevskii. **35**(5), 476–8 (Nov. 1973); CPM-7403D0016

Vasilina, Z. S.—Fundamental reflectance spectra of triglycine sulfate —Z. S. Vasilina and N. A. Romanyuk. **35**(2), 177–8 (Aug. 1973); CPM-7312F0101

Velichko, A. G.—Optimum parameters of a Fabry–Perot interferometer in studies of the Voigt contour using Fourier interferogram coefficients —A. G. Velichko, M. L. Kats and V. I. Tsoi. **35**(4), 440–2 (Oct. 1973); CPM-7402D0182

Veremeichik, T. F.—Optical absorption spectra of excited Cr^{3+} ions in magnesium spinel at room and liquid nitrogen temperatures — D. T. Sviridov, B. K. Sevastyanov, V. P. Orekhova, R. K. Sviridova and T. F. Veremeichik. **35**(1), 59–61 (Jul. 1973); CPM-7312F1817

Verlan, E. M.—Pure rotation spectra of raman scattering of tetrahedral XY_4 molecules in the ground vibrational state —E. M. Verlan. **35**(6), 627–9 (Dec. 1973); CPM-7404E0045

Verlinskii, Yu. S.—Optical properties of bismuth thin films —A. I. Usoskin, I. N. Shklyarevskii, A. S. Gerchikov and Yu. S. Verlinskii. **34**(5), 549–51 (May 1973); CPM-7311E0111

Vetchinkin, S. I.—Role of exchange in light–shift scattering for a double well —S. I. Vetchinkin and V. L. Bakhrakh. **34**(2), 139–41 (Feb. 1973); CPM-7310E0101

Vetchinkin, S. I.—Dispersion interaction of hydrogen atoms in excited states —A. F. Shestakov, S. I. Vetchinkin and S. V. Khristenko. **35**(4), 355–7 (Oct. 1973); CPM-7402D0097

Vetrov, A. A.—Structure of water vapor at 350 C and 158 bar pressure —G. V. Yukhnevich and A. A. Vetrov. **34**(4), 387–90 (Apr. 1973); CPM-7310E0349

Viblyi, I. F.—Infrared Reflection Spectra of Seignette–Salt Single Crystals —I. F. Viblyi, N. A. Romanyuk and V. V. Turkevich. **34** (3), 298–301 (Mar. 1973); CPM-7310E0260

Viktorova, V. S.—Quenching of anthracene fluorescence by carbon tetrachloride —E. A. Andreeshchev, V. S. Viktorova, S. F. Kilin and I. M. Rozman. **34**(5), 530–2 (May 1973); CPM-7311E0092

Vilesov, F. I.—Absorption and Fluorescence Spectra of Solutions of Anthracene and Its Methyl Derivatives in a Polymethylmethacrylate Matrix —D. A. Sukhov and F. I. Vilesov. **34**(1), 112–4 (Jan. 1973); CPM-7308D0136

—The mechanism of autoionization processes in CS_2 —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(2), 144–6 (Feb. 1973); CPM-7310E0106

—Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov and M. E. Akopyan. **34**(5), 501–2 (May 1973); CPM-7311E0063

—Applicability of the Franck–Condon principle to the autoionization of the N_2 molecule —V. I. Kleimenov, Yu. V. Chizhov and F. I. Vilesov. **34**(5), 590 (May 1973); CPM-7311E0152

Vilesov, F. I.—Photoionization processes in molecular iodine —M. E. Akopyan, F. I. Vilesov and Yu. L. Sergeev. **35**(5), 472–5 (Nov. 1973); CPM-7403D0012

Vinogradov, V. I.—Dispersion measurement in a d–c discharge in neon and helium–neon mixture at 0.63 μm and 1.15 μm —V. I. Vinogradov. **35**(4), 358–60 (Oct. 1973); CPM-7402D0100

Vinokurov, G. N.—Investigation of the selective properties of open unstable cavities —G. N. Vinokurov, V. V. Lyubimov and I. B. Orlova. **34**(4), 427–32 (Apr. 1973); CPM-7310E0389

Vinokurov, V. G.—Microwave spectrum of isotope-substituted pyrazole molecules —R. S. Nasibullin, R. G. Latypova, V. S. Troitskaya, V. G. Vinokurov and N. M. Pozdeev. **35**(1), 52–3 (Jul. 1973); CPM-7312F1810

Vinokurova, L. N.—The reflectance spectra of organic polymers in the 5–23.1 eV energy range —L. N. Vinokurova, Yu. A. Cherkasov and P. P. Kisilitsa. **34**(4), 464–6 (Apr. 1973); CPM-7310E0426

Vintenkov, B. I.—Spin relaxation of Hg^{199}, Hg^{201} optically oriented atoms in a nonuniform magnetic field —I. E. Grinko, A. N. Kuznetsova, P. S. Ovcharenko, B. I. Vintenkov and Yu. M. Petukhov. **34**(5), 576–7 (May 1973); CPM-7311E0138

Vishnevskii, V. N.—Dependence on the Position of Luminescence Bands Due to Tl^+ Centers on Ionic Radii of Cations and Anions in the Host Lattice of Some Alkali–Halide Crystals —V. N. Vishnevskii and N. S. Pidzyrailo. **34**(3), 338–9 (Mar. 1973); CPM-7310E0300

Vitkalov, V. S.—Approximate Calculation of Multiple Scattering in Cylindrical Cells —Yu. D. Kolpakov, V. S. Vitkalov and V. P. Skripov. **34**(3), 345–6 (Mar. 1973); CPM-7310E0307

Vlasov, B. V.—Luminescence and excitation spectra of LiH and LiD single crystals at low temperatures —L. A. Rebane, B. V. Vlasov, F. F. Gavrilov, S. O. Cholakh and V. D. Pirogov. **35**(1), 91–2 (Jul. 1973); CPM-7312F1849

Voitovich, A. P.—Generation of two frequencies in a gas laser with nonlinear selective losses —A. P. Voitovich and A. Ya. Smirnov. **34**(5), 533–6 (May 1973); CPM-7311E0095

Voitsekhovskaya, O. K.—Calculation of intensities for water–vapor spectral lines in bands of the first overtone and combination frequencies —O. K. Voitsekhovskaya, I. I. Ippolitov and Yu. S. Makushkin. **35**(1), 24–6 (Jul. 1973); CPM-7312F1782

Volkov, V. E.—Raman Spectra of Lattice Vibrations in Symmetric 1,2,3 Trihalogenobenzene —A. I. Rubailo, V. F. Shabanov and V. E. Volkov. **34**(3), 268–70 (Mar. 1973); CPM-7310E0230

Volkov, V. M.—Value of the gain for light internally reflected from a medium with inverted population —S. A. Lebedev, V. M. Volkov and B. Ya. Kogan. **35**(5), 565–6 (Nov. 1973); CPM-7403D0105

Volosov, V. D.—Nonlinear Controlled–Dispersion Spectrograph —R. B. Andreev, V. D. Volosov and A. G. Kalintsev. **34**(1), 102–3 (Jan. 1973); CPM-7308D0126

—Two–frequency neodymium–activated glass laser —R. B. Andreev and V. D. Volosov. **34**(4), 468–9 (Apr. 1973); CPM-7310E0430

Volosov, V. D.—High–efficiency scheme of intracavity generation of harmonics and parametric oscillation —V. D. Volosov and V. N. Krylov. **35**(1), 69–71 (Jul. 1973); CPM-7312F1827

—Generation of the second optical harmonic in a lithium iodate crystal under (oee) wave interaction —A. G. Kalintsev, V. D. Volosov and R. B. Andreev. **35**(1), 96 (Jul. 1973); CPM-7312F1854

Volovik, V. D.—Spectral distribution of ionization glow of air excited by relativistic electrons —V. D. Volovik, V. V. Petrenko, G. F. Popov and G. L. Fursov. **35**(3), 331–2 (Sep. 1973); CPM-7312F1607

Vorobev, F. A.—Statistical phenomena in many–photon processes — F. A. Vorobev and R. I. Sokolovskii. **35**(4), 452–3 (Oct. 1973); CPM-7402D0194

Vorobev, V. P.—Fluorescence of mechanically ground crystalline naphthalene —V. P. Vorobev and M. T. Shpak. **34**(4), 460–1 (Apr. 1973); CPM-7310E0422

Vorobev, V. S.—Determination of electron concentration and temperature using absolute intensities of spectral lines in a nonequilibrium plasma —V. S. Vorobev and M. B. Zheleznyak. **35**(4), 361–4 (Oct. 1973); CPM-7402D0103

Vorobeva, G. A.—Absolute intensities of the lines in the Raman spectra of monohalogen–substituted benzenes in the liquid and gasesous states —G. A. Vorobeva and S. P. Timonin. **35**(6), 619–21 (Dec. 1973); CPM-7404E0037

Voronin, V. B.—Holographic Method for Measuring Spatial Coherence Functions —D. I. Staselko, V. B. Voronin and A. G. Smirnov. **34**(3), 320–3 (Mar. 1973); CPM-7310E0282

Voronin, V. F.—Effect of quenchers on fluorescence spectra of polar solutions of dyes —V. I. Tomin, A. N. Rubinov and V. F. Voronin. **34**(6), 643–5 (Jun. 1973); CPM-7311E0205

Voronko, Yu. K.—Optical spectra and interaction of rare earth ions in doubly activated fluorite crystals —S. Kh. Batygov, Yu. K. Voronko, L. S. Gaigerova and V. S. Federov. **35**(5), 505–8 (Nov. 1973); CPM-7403D0045

Vorontsov, A. V.—Total emission of the fundamental NO band at high temperatures —A. A. Konkov and A. V. Vorontsov. **34**(5), 595–6 (May 1973); CPM-7311E0157

Vorontsova, S. I.—Depolarization of photoluminescence by powerful excitation —Yu. T. Mazurenko, V. V. Danilov and S. I. Vorontsova. **35**(1), 107–8 (Jul. 1973); CPM-7312F1865

Votyakov, S. L.—Relaxation of optically oriented atoms in a nonuniform magnetic field —S. P. Dovgopol, V. P. Putyrskii and S. L. Votyakov. **35**(6), 596–9 (Dec. 1973); CPM-7404E0014

Vovna, V. I.—Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov and M. E. Akopyan. **34**(5), 501–2 (May 1973); CPM-7311E0063

Y

Yakobson, N. N.—Signals and line shape during the observation of magnetic resonance in alkali metal vapors by pulse pumping —N. N. Yakobson. **35**(3), 233–7 (Sep. 1973); CPM-7312F1509

Yakovenko, V. A.—Spectral dependence of the lifetime of the excited state of vapors of complex molecules —L. G. Pikulik, V. A. Tolkachev and V. A. Yakovenko. **34**(2), 129–32 (Feb. 1973); CPM-7310E0091

Yakovlev, V. I.—Reduction in zero–order background light in optical signal processing systems —V. I. Yakovlev and T. N. Sergeenko. **35**(3), 321–2 (Sep. 1973); CPM-7312F1597

Yanichkin, V. I.—Correction of fringe curvature in a polarization Wollaston–prism interferometer —V. A. Komissaruk and V. I. Yanichkin. **34**(2), 238–9 (Feb. 1973); CPM-7310E0200

Yanovskaya, L. A.—Investigation of certain properties of substituted chalcones and their vinylogs in the electronically excited state — A. N. Nikitina, G. M. Fedyunina, B. Umirzakov, L. A. Yanovskaya and V. F. Kucherov. **34**(2), 163–5 (Feb. 1973); CPM-7310E0125

Yaremko, A. M.—Features of exciton absorption in molecular crystals when Fermi resonance is present —M. P. Lisitsa, A. M. Yaremko and N. E. Ralko. **35**(6), 641–4 (Dec. 1973); CPM-7404E0059

Yaroshenko, N. G.—Measurement of the natural line width of a traveling–wave He–Ne laser in the 0.63–μ region —V. A. Zborovskii, M. I. Molchanov, A. A. Turkin and N. G. Yaroshenko. **34**(6), 704–5 (Jun. 1973); CPM-7311E0266

Yarovaya, R. G.—Optical studies of inhomogeneities of metal layers deposited in vacuum —E. Idchak, R. G. Yarovaya, I. N. Shklyarevskii and A. G. Gimaev. **34**(2), 183–5 (Feb. 1973); CPM-7310E0145

Yashchuk, V. N.—Luminescence and the energy transfer of singlet excitation in solid styrene monomer —Yu. N. Demikhov, A. N. Faidysh and V. N. Yashchuk. **35**(4), 377–8 (Oct. 1973); CPM-7402D0119

Yudin, R. N.—Self–mode–selection of a 0.63μm laser with increased pressure in the discharge tube —E. G. Saprykin, R. N. Yudin and S. N. Atutov. **34**(4), 435–8 (Apr. 1973); CPM-7310E0397

Yukhnevich, G. V.—Structure of water vapor at 350 C and 158 bar pressure —G. V. Yukhnevich and A. A. Vetrov. **34**(4), 387–90 (Apr. 1973); CPM-7310E0349

Yulmetev, R. M.—The possibility of comparing NMR experiments with the data of optical and neutron spectroscopy —R. M. Yulmetev. **35**(3), 342–3 (Sep. 1973); CPM-7312F1618

Z

Zabiyakin, Yu. E.—Continuous Frequency Tuning of a Laser of Mixed Dye Solution —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **34**(1), 81–2 (Jan. 1973); CPM-7308D0105

Zabiyakin, Yu. E.—Experimental study of the lasing characteristics of solutions of phthalimide substitutes with lamp pumping —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(5), 553–4 (Nov. 1973); CPM-7403D0093

—Lasing of pyrilium perchlorate solutions by lamp pumping[1] —Yu. E. Zabiyakin, V. S. Smirnov and N. G. Bakhshiev. **35**(6), 675–6 (Dec. 1973); CPM-7404E0093

Zakharchenko, I. V.—Determination of oscillator strengths for transitions in HCl–Sn^{2+} solution —M. U. Belyi, I. V. Zakharchenko and B. A. Okhrimenko. **34**(5), 521–4 (May 1973); CPM-7311E0083

Zakharenko, Yu. G.—Oscillations in the discharge gap of He–Ne laser and their effect on the emission parameters —Yu. G. Zakharenko and V. E. Privalov. **35**(4), 434–9 (Oct. 1973); CPM-7402D0176

Zakharov, S. M.—Observation of satellites to the resonance transitions of H- and He-like ions of Mg and Al in laser plasma —E. V. Aglitskii, V. A. Boiko, L. A. Vainshtein, S. M. Zakharov, O. N. Krokhin and G. V. Sklizkov. **35**(5), 557–8 (Nov. 1973); CPM-7403D0097

Zamkov, V. A.—Investigation of the State of Polarization of Light Using the Rotating Birefringent Compensator Method —V. A. Zamkov. **34**(1), 92–4 (Jan. 1973); CPM-7308D0116

Zapesochnyi, I. P.—Electronic excitation of some Kr and Xe lines in the vacuum ultraviolet —I. G. Zhukov, I. P. Zapesochnyi and P. V. Feltsan. **34**(4), 475–6 (Apr. 1973); CPM-7310E0437

—Electron-impact excitation of alkaline earth atoms. 1. magnesium — I. S. Aleksakhin, I. P. Zapesochnyi, I. S. Aleksakhin, I. I. Garga **34**(6), 611–5 (Jun. 1973); CPM-7311E0173

Zapesochnyi, I. P.—Fine structure in excitation functions of cesium beyond the ionization threshold —E. N. Postoi, I. S. Aleksakhin and I. P. Zapesochnyi. **35**(2), 223–4 (Aug. 1973); CPM-7312F0147

—Intensity ratios of the head–term components of the diffuse thallium series —L. L. Shimon, E. I. Nepiipov and I. P. Zapesochnyi. **35**(3), 231–2 (Sep. 1973); CPM-7312F1507

—Excitation cross sections of bands of the first negative system of nitrogen in electron–ion collisions —A. I. Dashchenko, I. P. Zapesochnyi and A. I. Imre. **35**(5), 562–3 (Nov. 1973); CPM-7403D0102

—Electron–impact excitation of alkaline earth atoms. Part 2: Strontium singlets —V. P. Starodub, I. S. Alekssakhin, I. I. Garga and I. P. Zapesochnyi. **35**(6), 603–6 (Dec. 1973); CPM-7404E0021

Zaripov, M. M.—Effect of the electrooptical anharmonicity of vibrations on the probabilities of vibrational transitions of molecules in dipolar liquids —A. N. Sadykov and M. M. Zaripov. **35**(6), 622–3 (Dec. 1973); CPM-7404E0040

Zborovskii, V. A.—Measurement of the natural line width of a traveling–wave He–Ne laser in the 0.63–μ region —V. A. Zborovskii, M. I. Molchanov, A. A. Turkin and N. G. Yaroshenko. **34**(6), 704–5 (Jun. 1973); CPM-7311E0266

Zefirov, Yu. V.—Some formulas for extrapolation of atomic ionization potentials —Yu. V. Zefirov and M. M. Protodyakanov. **34**(4), 458–9 (Apr. 1973); CPM-7310E0420

Zeiger, S. G.—Three–Mode Oscillation in a Ring Laser —S. G. Zeiger. **34**(1), 72–6 (Jan. 1973); CPM-7308D0096

—Coupling of Traveling Waves in a Ring Resonator with a Local Inhomogeneity —S. G. Zeiger. **34**(3), 331–4 (Mar. 1973); CPM-7310E0293

Zelesskii, V. Yu.—Observation of hyperfine splitting in iodine atoms by means of spontaneous emission in pulsed photolysis of CF_3I — V. Yu. Zelesskii, Yu. M. Ivanenko and T. I. Krupenikova. **34**(6), 618–9 (Jun. 1973); CPM-7311E0180

Zelikman, P. I.—Effect of intermolecular interactions on the vibrational spectra of molecules. XI. A new method for establishing the nature of the displacement of the ir bands of simple molecules when the gas–solution phase transition takes place —N. G. Bakhshiev, G. I. Baranova, O. P. Girin and P. I. Zelikman. **35**(1), 40–2 (Jul. 1973); CPM-7312F1798

Zheleznyak, M. B.—Determination of electron concentration and temperature using absolute intensities of spectral lines in a nonequilibrium plasma —V. S. Vorobev and M. B. Zheleznyak. **35**(4), 361–4 (Oct. 1973); CPM-7402D0103

Zhirnov, N. I.—Classical Calculation of the Intensity Distribution in the Vibrational–Rotational Spectra of Diatomic Molecules —I. E. Sazonov and N. I. Zhirnov. **34**(3), 254–6 (Mar. 1973); CPM-7310E0216

—Calculation of Franck–Condon Factors for a Morse Oscillator by a Generalized WKB Approximation —O. P. Shadrin and N. I. Zhirnov. **34**(3), 337–8 (Mar. 1973); CPM-7310E0299

Zhitnikov, R. A.—Nature of EPR Signals in Nuclear Photoemulsions —R. A. Zhitnikov, N. P. Kocherov, N. G. Romanov and V. A. Khramtsov. **34**(1), 106–7 (Jan. 1973); CPM-7308D0130

Zhivnov, V. A.—Shift in the flourescence spectrum of molecules in a nonresonant–laser field —A. N. Rubinov, V. I. Tomin and V. A. Zhivnov. **35**(4), 451–2 (Oct. 1973); CPM-7402D0193

Zhizhin, G. N.—Diffuse phase transition in crystalline phenanthrene according to ir absorption spectra —G. N. Zhizhin and N. I. Bagdanskis. **34**(6), 669–70 (Jun. 1973); CPM-7311E0231

Zhukov, I. G.—Electronic excitation of some Kr and Xe lines in the vacuum ultraviolet —I. G. Zhukov, I. P. Zapesochnyi and P. V. Feltsan. **34**(4), 475–6 (Apr. 1973); CPM-7310E0437

Zhuravlev, V. A.—Determination of the temperature of a relativistic plasma from the scattered–light indicatrix —V. A. Zhuravlev and G. D. Petrov. **34**(4), 456 (Apr. 1973); CPM-7310E0418

—Spectrum of two–photon light scattering by plasma electrons —V. A. Zhuravlev and G. D. Petrov. **34**(5), 586–7 (May 1973); CPM-7311E0148

Zilbershtein, A. Kh.—Natural and artificial phenomena of pseudocrossing of dispersion curves by the Rozhdestvenskii hook method —A. Kh. Zilbershtein and L. E. Solovyov. **35**(3), 274–6 (Sep. 1973); CPM-7312F1550

Zimkina, T. M.—Absorption coefficients of rare–earth elements of the lanthanum group in the ultrasoft X–ray region —S. A. Gribovskii and T. M. Zimkina. **35**(1), 104–5 (Jul. 1973); CPM-7312F1862

Zolin, V. F.—Nature of the absorption bands and the origin of the high nonlinear dielectric susceptibility of molecular crystals —B. L. Davydov, V. V. Dunina, V. F. Zolin and L. G. Koreneva. **34**(2), 150–3 (Feb. 1973); CPM-7310E0112

Zolin, V. F.—Interpretation of luminescence spectra of uranyl molybdate and uranyl tungstate —V. F. Zolin, S. P. Rozman and P. S. Fisher. **35**(3), 345–6 (Sep. 1973); CPM-7312F1621

Zolotarev, V. M.—Optical constants of GeO_2 oxides in the 4000–200 cm^{-1} region —V. M. Zolotarev and V. N. Morozov. **34**(2), 181–2 (Feb. 1973); CPM-7310E0143

—Relation between observed and true absorption spectra of molecules in a condensed medium. 7: One of the physical reasons for the failure of Beer's law in concentrated solutions —B. A. Mikhailov, V. M. Zolotarev and N. G. Bakhshiev. **34**(6), 627–30 (Jun. 1973); CPM-7311E0189

Zubarev, T. N.—Low–frequency modulation of solid–state laser emission in axial mode–locking conditions —T. N. Zubarev, V. M. Martynov and Yu. A. Tarasov. **34**(4), 433–4 (Apr. 1973); CPM-7310E0395

Zubkov, L. A.—Distinctive features of the component structure of depolarized light scattered by quinoline —L. A. Zubkov and N. B. Rozhdestvenskaya. **34**(5), 587–8 (May 1973); CPM-7311E0149

Zubkova, V. S.—Transformation of neodymium–laser emission into luminescence of Tb^{3+} in glasses coactivated by Tb^{3+} and Yb^{3+} ions —B. M. Antipenko, A. V. Dmitryuk, G. O. Karapetyan, V. S. Zubkova, V. I. Kosyakov, A. A. Mak and N. V. Mikhailova. **35**(3), 315–7 (Sep. 1973); CPM-7312F1591

Zuev, M. G.—Measuring technique for parameter for losses in cavities of solid state lasers —M. G. Zuev, A. L. Shalyapin and F. F. Gavrilov. **34**(4), 459–60 (Apr. 1973); CPM-7310E0421

Zusman, L. D.—Measurement of the frequency correlation function of an intense frequency–modulated field —L. D. Zusman and A. I. Burshtein. **34**(4), 476–7 (Apr. 1973); CPM-7310E0438

Zverev, V. V.—Anisotropy of the g–factor of an atomic system interacting with rotating and oscillating radio–frequency fields —V. V. Zverev and V. G. Pokazanev. **35**(3), 328–30 (Sep. 1973); CPM-7312F1604

Zvyagin, A. I.—Energy spectrum of Dy^{3+} ion in single crystals of the $KY(MoO_4)_2$–$KDy(MoO_4)_2$ system —T. S. Stetsenko, A. M. Pshisukha, S. D. Elchaninova and A. I. Zvyagin. **34**(2), 227–8 (Feb. 1973); CPM-7310E0189

OPTICAL SOCIETY OF AMERICA

PUBLICATIONS PRICE LIST 1974

	NON MEMBER RATE				OSA MEMBER RATE[5]		
			Optional Air Freight			Optional Air Fzeight	
	Domestic[1]	Foreign[2]	Europe[3]	Asia[4]	Surface Mail	Europe[1]	Asia[2]
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA							
annual subscription	$50.00	$53.00	$56.00	$62.00	$20.00[6]	$25.00[6]	$30.00[6]
single copies, after 1939	5.50				5.50		
complete back volumes	55.00				55.00		
Index, Volumes 1–40	10.00				10.00		
Index, Volumes 41–53	5.00				5.00		
APPLIED OPTICS							
annual subscription	$60.00	$64.00	$69.00	$80.00	$20.00[6]	$28.00[6]	$39.00[6]
single copies	6.50				6.50		
complete back volumes, per year	65.00				65.00		
Supplement 2—CHEMICAL LASERS	6.00				6.00		
Supplement 3—ELECTROPHOTOGRAPHY	12.00				12.00		
OPTICS AND SPECTROSCOPY (English edition of OPTIKA I SPEKTROSKOPIYA)							
annual subscription	$80.00	$83.00	$86.00	$91.00	$20.00[6]	$26.00[6]	$31.00[6]
single copies	8.50				8.50		
complete back volumes, per year	85.00				85.00		
Index, Volumes I–X	10.00				10.00		
Index, Volumes XI–XX	10.00				10.00		
Index, Volumes XXI–XXX (Furnished at no cost with orders for 1971 back volumes)	15.00				15.00		
Supplement 1—LUMINESCENCE	15.00				15.00		
Supplement 2—MOLECULAR SPECTROSCOPY I	15.00				15.00		
Supplement 3—MOLECULAR SPECTROSCOPY II	15.00				15.00		
Supplement 4—SOLID STATE SPECTROSCOPY	20.00				20.00		
SOVIET JOURNAL OF OPTICAL TECHNOLOGY (English edition of OPTIKA MECHANICHESKAYA PROMYSHLENNOST)							
annual subscription	$75.00	$78.00	$81.00	$85.00	$15.00[6]	$21.00[6]	$25.00[6]
single copies, 1966–1969	16.00				16.00		
single copies, 1970–	8.00				8.00		
complete back volumes, per year	80.00				80.00		
THE SCIENCE OF COLOR book, 386 pages, 25 color plates	$14	$14			$12.50	$12.50	
RAMAN NEWSLETTER	Libraries: $50 ($12 to dealers)				Members: $5		

DIGESTS OF TOPICAL MEETINGS

	Prepaid	Invoiced
The Use of Optics in Microelectronics (January 25–27, 1971)	$ 5.00	$ 5.75
Integrated Optics (February 7–10, 1972)	10.00	11.00
Illumination Optics (September 5–7, 1972)	3.00	3.50
Optical Storage of Digital Data (March 19–21, 1973)	10.00	11.00

The four journals, single copies of the journals, and the indices and supplements listed may be obtained from the American Institute of Physics, 335 East 45 Street, New York, New York 10017. Volumes and single copies of the JOURNAL OF THE OPTICAL SOCIETY OF AMERICA prior to 1939 are available from the Johnson Reprint Corporation, 111 Fifth Avenue, New York, New York 10003. Back volumes of all four journals are also available on microfilm from the American Institute of Physics. All other publications should be ordered directly from the Optical Society of America, 2100 Pennsylvania Avenue, N.W., Washington, D.C. 20037.

[1] Rates apply to United States and possessions, Canada and Mexico. [2] Rates apply to all subscribers not in the domestic area. [3] Optional air freight delivery of journals is available to the most countries in Europe, the Middle East and North Africa. Journals will be shipped air freight to Europe and distributed by surface mail. [4] Optional air freight delivery is available to the most countries in Asia and Oceania. Journals will be shipped air freight to Japan and distributed by surface mail. [5] OAS members receive both JOSA and AO gratis, as part of their membership. [6] Students members receive one OSA serial publication of their choice gratis, as part of their membership; the other publications may be subscribed to at this reduced rate.